

**Living between Two Cultures: Personality and Adaptation in  
Chinese Immigrant Youth**

by

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## Abstract

The aim of the present study was to examine the relationship between shyness and acculturation modes of Chinese immigrant youth in Canada and whether shyness moderates the relationship between acculturation and adaptation. In addition, I examined whether shyness, in conjunction with sociability, moderates the relationship between acculturation and adaptation. Ninety-nine young Chinese immigrants (42 men), ranging in age from 16 to 26 years old, completed a questionnaire that assessed their demographic information, acculturation modes, shyness, sociability, psychological adaptation (life satisfaction, self-esteem, and depression), and socio-cultural adaptation.

Results showed that Chinese orientation was significantly and negatively correlated with age, generation status, English proficiency, and length of residence in Canada. In contrast, Canadian orientation was significantly and positively correlated with generation status, English proficiency, and length of residence in Canada. Canadian orientation was also significantly and negatively correlated with shyness and positively correlated with sociability and psychological and socio-cultural adaptation. Participants who were shyer were more likely to have poorer psychological and socio-cultural adaptation, and to report lower life satisfaction and self-esteem and higher depression.

Results from hierarchical multiple regression analyses indicated that Chinese immigrant youth who were separated had higher scores on shyness than those who were integrated and assimilated. There were no significant differences in shyness between youth who were separated and youth who were marginalized, nor were there differences between youth who were integrated and those who were assimilated. Furthermore, integrated Chinese youth reported significantly higher scores in sociability than those

who were separated and marginalized but not significantly higher than those who were assimilated. Shyness did not moderate the relationship between acculturation modes and psychological and socio-cultural adaptation. Unfortunately, the hypothesis to examine if shyness, in combination with sociability, moderated the relationship between acculturation and psychological adaptation could not be tested in the present study because of limitations in cell sizes.

The findings suggested that how Chinese immigrant youth acculturate in the receiving country might not be the crucial factor in determining their adaptation. Instead, other factors, such as personality characteristics and nature of the acculturating group, may play a more crucial role. Shyness may have important ramifications for the acculturation and adaptation of young Chinese immigrants to a new society.

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## INTRODUCTION

The number of Chinese immigrant families has been burgeoning in Canada. In fact, the number of individuals who identified themselves as Chinese increased 18.2% from 1,029,400 in 2001 to 1,216,600 in 2006 (Statistics Canada, 2007). According to the 2006 census, Chinese accounted for 24.0% of the visible minority population (about 5.1 million) and 3.9% of the total Canadian population (about 32 million). In addition, Canadians of Chinese origin are characterized by their relative youth in that they are somewhat more likely than the overall population to be young adults, with 32.7% under the age of 24, as compared to 29.7% for the overall population (Statistics Canada, 2006).

In recent years, there have been significant strides toward understanding the acculturation, psychological adjustment, and adaptation of immigrants. However, there is still a paucity of research on the migration experiences of youth (Berry, Phinney, Sam, & Vedder, 2006) and even much less is devoted to the understanding of young Chinese immigrants or those coming from immigrant families (Roy & Roysircar, 2004). One possible reason for the dearth of research on Chinese immigrant youth is the “model minority” myth, which may lead researchers to assume that they are well adjusted (Yeh & Inose, 2002). However, Chinese immigrant youth exhibit major adaptive problems (Chiu & Ring, 1998) and given the sheer number of foreign-born and native-born young Chinese in Canada, it is therefore crucial to identify aspects of their experiences in navigating between two cultures and the process of adaptation that are unique to these youth.

One area that has been explored in the immigrant youth literature is the various ways in which immigrant youth acculturate to the receiving country and whether these

differing ways of acculturation are related to their adaptation (Ben-Shalom & Horenczyk, 2003; Berry et al., 2006; Leung, 2001). Personality has also received some attention due to the likelihood that it may influence how immigrant youth acculturate to the receiving country (Ward, Leong, & Low, 2004). Against this backdrop, the present study focused on the relationship between shyness, acculturation, and adaptation of young Chinese immigrants. In addition, I examined whether shyness, in conjunction with sociability, moderated the relationship between acculturation and adaptation.

### *Immigrant Youth*

The experiences of immigrant youth fall within an “emerging adulthood” developmental period characterized by changes marking the transition from childhood to adulthood. They face issues similar to those faced by most youth, such as identity exploration, peer pressure, striving for autonomy, and academic concerns. However, beyond these “regular” difficulties, immigrant youth also encounter certain unique struggles. For example, they have to adjust to a new culture, school system, and language and rebuild their social networks. In addition, they often have to carry the burden of immigration-related problems, such as isolation, discrimination, feelings of loss, and lack of acceptance (Stodolska & Yi, 2003). In addition, the search for identity might be particularly stressful for immigrant youth because their identity development is confounded by double sources of identity when home and peer groups come from different cultures (Anisef et al., 2007).

Although these difficulties are “part and parcel” of adapting to a new country, continual exposure to such issues might adversely affect psychological and social well-being and lead to maladjustment. For example, previous studies have found that

immigrant youth were particularly vulnerable to problems, such as poor mental health, psychological stress, and behavioural difficulties (Jasinskaja-Lahti, Liebkind, & Perhoniemi, 2006; Oppedal et al., 2005; Vazsonyi & Killias, 2001).

Youth who were born in the mainstream society but have foreign-born parents may not have faced some of the unique difficulties experienced by the foreign-born immigrant youth (e.g., having to adjust to a new culture and language and rebuilding their social networks). However, they often carry a similar burden, such as discrimination and lack of acceptance from the mainstream society as well as the culture of origin. Moreover, these youth also may find themselves caught between two worlds, having grown up with two cultures. Similar to foreign-born youth, they may also encounter intercultural conflicts caused by value-system differences between the native and mainstream cultures. They may try to maintain cultural allegiances for their parents' sake while at the same time being pushed by their mainstream peers to accept mainstream culture and deny their backgrounds (Mattar, 2004). Qin, Way, and Mukherjee (2008), drawing from their interviews with first- and second-generation Chinese American youth, found that these youth felt alienated from both their parents and peers. Their data revealed that various factors, such as high academic expectations from parents, physical appearance, language barriers, "model minority" myth, and immigration status, contributed to feelings of alienation. As Yoshikawa and Way (2008) stated, such negative experiences may pose a serious impediment to the youth's ability to thrive in the social and emotional domains.

The experiences of childhood and adolescent period tend to define social and behavioural patterns in later life (Stodolska & Yi, 2003). Hence, the post-arrival period is

a crucial time in determining the long-term success of young immigrants. As Stodolska and Yi (2003) noted, the experiences of the post-arrival period are likely to have profound implications for immigrant youth's psychological and emotional development. This, in turn, will affect their adjustment in the long run.

Ignoring problems encountered by immigrant youth is detrimental not only for the youth but also for the receiving country, where the costs can be measured in terms of loss of talent, human capital, and the expenditures that have to be made to deal with "social problems" (Anisef et al., 2007). Therefore, it is vital to understand the factors that influence the experiences and adaptation of immigrant youth, so that effective settlement policies and early intervention programs can be implemented (Kosic, Mannetti, & Sam, 2006).

### *Acculturation*

One of the most widely acknowledged and researched areas of the immigrant experience is "acculturation", which is defined as the process of cultural and psychological change as a result of intercultural contact (Berry et al., 2006). According to Oppedal, Roysamb, and Heyerdahl (2005), acculturation also can be viewed as a developmental task that ethnic minority youth deal with in gaining competence within two or more cultural domains, mainly that of the receiving country and their own ethnic group.

### *Conceptualization of Acculturation*

Traditionally, acculturation has been conceptualized as a unidimensional process, in which exposure to a new cultural system may lead members of an immigrant group to adopt the values, attitudes, and behaviours of the mainstream society, while abandoning

the values, attitudes, and behaviours of the original culture (Ryder, Alden, & Paulhus, 2000). In other words, these researchers assumed that as people adopt the values and customs of a new culture, they drop the values and customs of their native culture. Hence, the strength of this measurement lies in its simplicity in that it can capture the assimilation process concisely. However, this simplicity also subjects the model to criticism, as the model assumes mutual exclusion of the two cultural identities (Kang, 2006; Rogler et al., 1991). This model does not allow for the possibility that individuals might retain elements of their native culture while simultaneously learning a new culture.

Due to this limitation, more researchers are beginning to view acculturation as bidimensional or multidimensional (Ben-Shalom & Horenczyk, 2003; Miller, 2007). In this revised acculturation model, the maintenance of native cultural identity is independent of the development of mainstream cultural identity and, as a result, individuals can maintain aspects of their cultures of origin while also acquiring the characteristics necessary to participate in the mainstream society (Laroche, Kim, Hui, & Tomiuk, 1998; Matsudaira, 2006). Hence, the major strength of this more complex model is that individuals can have either strong or weak identification with both their own or the mainstream cultures.

Several researchers have developed models of acculturation for immigrant youth, based on the different ways in which these youth deal with their unique dual-identity issue (Berger, 1997). However, one of the most widely utilized models of acculturation for immigrant youth was the model developed by Berry and his colleagues. Within the multidimensional framework, Berry and his colleagues (Berry, 1997; Berry et al., 2006) proposed that two issues could be raised: the degree to which people wish to maintain



their native culture and identity, and the degree to which they wish to seek involvement with the mainstream society. When these two issues were dichotomized, four acculturation modes could be discerned: assimilation, separation, integration, and marginalization (see Figure 1).

		Wish to maintain native culture and identity?	
		Yes	No
Wish to seek involvement and maintain relationships with mainstream society?	Yes	Integration	Assimilation
	No	Separation	Marginalization

Figure 1. Formulation of acculturation model based on multidimensional conceptualization

More specifically, individuals who show little interest in maintaining their native culture and prefer to interact with the mainstream society are seen to endorse an assimilation mode. In contrast, those who seek to maintain their native culture and avoid interacting with the mainstream society are seen to endorse a separation mode. Individuals who value both native cultural maintenance and involvement with the mainstream society are seen to adopt an integration mode, while those who value neither cultural maintenance nor interaction with the mainstream society are seen to adopt a marginalization mode.

Immigrant youth who adopt an integration mode have relatively high involvement in both their native culture and the mainstream society. For example, they have fairly equal usage of both their native language and the language of the mainstream society; they have peer contacts with both their own ethnic group and the mainstream society; and

they identify with both their ethnic identity and national identity. In other words, these immigrant youth are at ease navigating between their culture of origin and the mainstream society. In contrast, immigrant youth who adopt a marginalization mode seem to lack a direction in their lives, as they simultaneously adopt three conflicting acculturation modes: separation, assimilation, and marginalization. For example, they might have high usage of their native language but at the same time have low identification with their native culture.

Immigrant youth who adopt a separation mode show a strong orientation toward their native culture. For example, they speak in their native language most of the time; their peer contacts are mostly from their native culture group; and they identify chiefly with their ethnic identity. In other words, these youth are strongly embedded within their native culture. Immigrant youth who adopt an assimilation mode, on the other hand, show a strong orientation toward the mainstream society. Their behaviours and attitudes are mirror images of those who adopt a separation mode. For example, they speak predominantly in the language of the mainstream society; their peer contacts are largely with members of the mainstream society; and they identify mainly with the mainstream society. In other words, these youth lack retention of their culture of origin.

Several studies have found that, in general, immigrant youth select integration and separation as their preferred acculturation modes and assimilation and marginalization as their least preferred modes (Berry et al., 2006; Pfafferott & Brown, 2006; Sam, 1995). Pfafferott and Brown (2006), in their study of immigrant youth aged 14 to 19 years in Germany, most of whom had Turkish backgrounds, found that these youth had a clear preference for integration mode, with only a very small percentage preferring the other

three acculturation modes. In an earlier study by Sam (1995), data were collected in Norway from a group of youth, aged 10 to 17 years, who migrated from developing countries. He found that most of these youth adopted an integration mode, followed by separation mode. Similarly, Sharir (2002), in her study of Chinese immigrant youth in Canada, found that these youth overwhelmingly adopted the integration mode. In addition, there was a stronger support for the separation mode than the assimilation mode.

### *Adaptive outcomes of Acculturation*

During the process of acculturation, individuals experience a certain level of difficulty or stress in having to switch between two cultures. Hence, one main question that is of interest to researchers concerns the psychological consequences for individuals who have to navigate between their culture of origin and the mainstream society (Centre for Cross-Cultural Research, n.d.). A number of researchers have measured successful acculturation for immigrants in terms of positive adaptation to the receiving country (Berry et al, 2006; Ward & Kennedy, 1994). According to Searle and Ward (1990), during the process of cross-cultural transitions, two forms of adaptation can be distinguished: psychological and socio-cultural. In a review of the literature on cross-cultural transitions, Searle and Ward (1990) found that psychological adaptation, broadly speaking, refers to mental well-being and life satisfaction and can best be understood within the framework of a stress and coping model. Conversely, socio-cultural adaptation can be more effectively analyzed within a social learning framework and generally refers to social competence in managing daily life through the acquisition of culturally appropriate skills.

Previous studies on sojourners – individuals who travel to a new country for

specific objectives, such as occupational or educational opportunities - revealed that psychological adaptation can best be predicted by personality variables, life changes, and social support, while socio-cultural adaptation can best be predicted by cultural knowledge, degree of contact, and intergroup attitudes (Searle & Ward, 1990; Ward & Kennedy, 1993; Ward & Searle, 1991). Additionally, Kosic et al. (2006) stated that both forms of adaptation usually could be predicted positively by acculturation strategies.

In terms of both psychological and socio-cultural adaptations, several studies have found the integration mode to be the most adaptive strategy and marginalization mode to be the least adaptive (Berry et al. 2006; Kosic et al., 2006). For example, in their study of immigrant youth across 13 countries, Berry et al. (2006) found that youth, aged 13 to 18 years, who endorsed an integration mode exhibited the best psychological and socio-cultural adaptation, while those who endorsed a marginalization mode showed the poorest adaptation, both psychologically and socio-culturally. They also found that immigrant youth who adopted a separation mode showed good psychological but not socio-cultural adaptation. One possible reason might be immigrant youth who adopted a separation mode were able to receive social support from their ethnic group. This might have promoted their psychological adaptation. In contrast, their socio-cultural adaptation might suffer because of their limited understanding of the rules and norms of the mainstream society.

### *Factors Influencing Acculturation Modes*

Research has shown that the kind of acculturation modes immigrants adopt is dependent on various individual and social factors (Farver, Bhadha, & Narang, 2002; Kuo & Roysircar, 2004; Sam, 1995). Cabassa (2003) stated that three main contextual

areas - prior to immigration context, immigration context, and settlement context – must be considered when studying acculturation. Some factors to consider under the prior to immigration context include reason for migration, role in the immigration decision, prior knowledge or contact with the host country, and the political, economic, and social environment of the country of origin. The immigration context, such as the type of immigration group and duration of the immigration journey, also can have a profound effect on how the immigrants acculturate to the new society. In the settlement context, some of the factors to consider include age at time of settlement, immigrants' fluency in the host country's language, cultural distance between the native and mainstream society, expectations for life in the new country, immigration policies, societal attitudes towards immigrants, and amount of social support available.

Several studies have provided evidence that various factors at the individual and social level have had an impact on how immigrant youth acculturate. For example, Kuo and Roysircar (2004), investigating a sample of Chinese immigrant youth living in Canada, found that youth who came from higher socio-economic background, had better English reading ability, migrated at a younger age, and had lived in Canada for a longer period of time were more acculturated towards Canadian cultural norms than youth who were from lower socio-economic status, had poorer English reading ability, migrated at an older age, and had a shorter stay in Canada.

An earlier study by Sam (1995) revealed that the acculturation modes of immigrant youth might be influenced in part by perceived parental attitudes towards cultural change. Using a sample of young immigrants residing in Norway, he found that immigrant youth who perceived their parents as having a positive attitude towards the

Norwegian society were more likely to be integrated or assimilated. In contrast, if the youth perceived their parents as having a negative attitude toward the Norwegian society, they were more likely to be separated. Similarly, Farver et al. (2002) found that Asian Indian immigrant youth who were integrated and assimilated tend to be from higher socio-economic background. They deduced that immigrant parents with middle-class status or who achieved this status tend to prefer assimilation to other acculturation modes and this, in turn, might have influenced their children's preferences.

### *Personality Characteristics*

One area that has received little research attention is the role of personality characteristics on immigrants' acculturation process. This has prompted Kosic and his colleagues (2005) to examine the relationship between immigrants' self-monitoring, acculturation modes, and adaptation. Self-monitoring is a personality trait that refers to the ability to regulate oneself in social interactions and it involves adapting one's behaviours, changing one's thought processes, and adjusting one's emotions whenever this proves to be advantageous for the self and others.

In their study of adult Polish immigrants in Italy, Kosic et al. (2005) found that self-monitoring was positively related to psychological and socio-cultural adaptations. They also found that self-monitoring seemed to moderate the impact of acculturation modes on psychological and socio-cultural adaptation. For example, in terms of socio-cultural adaptation, the positive effect of adopting an assimilation mode was much stronger for immigrants with high self-monitoring than for those with low self-monitoring. One possible reason is that immigrants who are high on self-monitoring are highly responsive to social and interpersonal cues, which make them good at establishing

social relationships with individuals from the mainstream society. Conversely, the effect of adopting an integration mode was positive for immigrants with low self-monitoring but negative for those with high self-monitoring. One possible reason is that having to simultaneously pay attention to social cues from both cultures and establish social relationships with individuals from both cultures may result in the immigrants feeling more stress than those with low self-monitoring.

These findings suggest that personality may influence the acculturation modes of immigrant youth and also serve to moderate the relationship between acculturation modes and adaptation. Therefore, it is necessary to examine if other personality characteristics, such as shyness, may play a role in the acculturation and adaptation of immigrant youth.

### *Shyness*

Shyness has been defined in terms of an individual's reactions to being with strangers or casual acquaintances: tension, concern, feelings of awkwardness and discomfort, gaze aversion, and inhibition of typically expected social behaviour (Buss, as cited in Cheek & Buss, 1981). A three-component model has been proposed for shyness, consisting of physiological, cognitive, and behavioral features (Cheek, Melchior, & Carpentieri, 1986). In terms of physiological features, many, although not all, shy individuals report physical discomfort such as upset stomach, sweating, and blushing while in social situations. Many shy individuals also report self-deprecating thoughts and unwarranted concerns about being negatively evaluated by others (cognitive components). In terms of the behavioural feature, many shy individuals believe that other people think of them as being socially awkward although they may not necessarily lack social skills. This, in turn, affects their social functioning.

Shyness has also been viewed as a construct embedded within the “umbrella term” of social withdrawal, which refers to the consistent display of all forms of solitary behaviour when encountering familiar and unfamiliar peers (Rubin, Burgess, & Coplan, 2002). According to Rubin and Asendorpf (1993), social withdrawal is a highly complex phenomenon that carries with it different psychological meanings and potential causes. Shyness is one form of social withdrawal that can be viewed from a motivational perspective. For example, some shy individuals might be socially disinterested, choosing to spend time alone even when they are among others, while some shy individuals might experience conflicted motivations, wanting to approach others but inhibited by social fear and anxiety (Coplan, Prakash, O’Neil, & Armer, 2004).

Shyness is a complex condition and no single definition is adequate. As Zimbardo (1977/1990) stated, “Shyness is a fuzzy concept; the closer we look, the more varieties of shyness we discover” (p. 13). However, there is little doubt that shyness is a universal and common experience. Zimbardo (1977/1990), in his survey of nearly 5,000 individuals, found that more than 80% of those questioned reported being shy at some point in their lives, either currently, in the past, or always. More important was the finding of a study reporting that the percentage of adults who labelled themselves as chronically shy had been escalating gradually and was now close to 50% (Henderson & Zimbardo, 1998).

The prevalence of shyness also varies from culture to culture. Research in the United States revealed that shyness was the highest among Asian Americans and lowest among Jewish Americans (Henderson & Zimbardo, 1998). Henderson and Zimbardo (1998) also conducted a study in which colleagues from eight countries administered a



culturally sensitive adaptation of the Stanford Shyness Inventory to groups of 18 to 21 year olds. Results indicated that a large proportion of participants in all cultures reported experiencing shyness, from a low of 31% in Israel to highs of 55% in Taiwan and 57% in Japan.

### *Consequences of Shyness*

Shyness has been found to be a risk factor for maladjustment across the life span. For example, shyness in childhood has been linked to lower self-esteem, lower social competence, and fewer prosocial behaviours (Coplan et al., 2004; Eisenberg et al., 1996). During later childhood and into adolescence and adulthood, shyness becomes increasingly linked to social anxiety, depression, loneliness, and less positive coping strategies (Eisenberg et al., 1996; Prior, Smart, Sanson, & Oberklaid, 2000). Despite these findings, shyness also may have several favourable aspects. For example, shyness may make a person appear unassuming, discreet, and introspective and it offers an opportunity to stand back, observe, and act (Zimbardo, 1977/1990).

Since shyness has often been associated with negative outcomes, such as difficulty meeting people and initiating conversations, but also may have positive aspects, it would be reasonable to expect shyness to be related to immigrant youth's acculturation experiences and adaptation.

### *Cultural Differences in Shyness and its relation to Acculturation and Adaptation*

Cultural norms play an important role in defining the "meaning" of social behaviours and, thus, they may be viewed and valued differently in different societies. Behaviours that are dysfunctional and meet with disapproval in one context might be functional and meet with approval in another. In North American societies, socially

withdrawn behaviours, such as shyness, are often perceived as socially incompetent, deviant, and immature (Rubin et al, 2002; Younger, Gentile, & Burgess, 1993). As a result, the display of withdrawn behaviours is likely to be responded to by peers and adults with negative emotions and actions, such as rejection and power assertion (Rubin et al. 2002). According to Younger et al. (1993), by about 10 to 11 years old, children begin to view socially withdrawn behaviours as a category of maladjustment that is as cohesive as aggression. In addition, parents in North American or western society typically react to shy-inhibited behaviour with concern and disappointment (Chen, DeSouza, Chen, & Wang, 2006).

In Chinese societies, on the other hand, shy, sensitive, and inhibited behaviours often are positively valued and encouraged and are considered to reflect self control, social maturity, and understanding (Chen et al., 2006; Chen, Rubin, & Li, 1995). For example, Chen et al. (1995) found that many shy-inhibited children in China did not experience many socio-emotional difficulties, were accepted by peers, and were well adjusted to the environment. In addition, Xu and Farver (2005, as cited in Xu, Farver, Chang, Zhang, & Yu, 2007) interviewed Mainland Chinese mothers about their perceptions of shyness and found that shyness was often used to describe children who did not brag about their good grades and who retreated when facing potential conflict with peers. It may be that the behavioural manifestations of shyness, such as behavioural wariness, restraint, and reticent behaviours, are characteristics that are highly valued in Chinese societies, as they are often associated with virtuous qualities, such as modesty, cautious behaviour, and self-control (Chen et al., 2006). This positive view of socially

withdrawn behaviours may indirectly reinforce the development of shy and inhibited behaviour in Chinese children.

Hence, for shy Chinese immigrant youth, interacting with peers and adults from a western society may pose a problem in that the immigrant youth who are shy are more likely to face rejection than those who are not shy. When faced with rejection, these immigrant youth might simply refrain from engaging in social interaction with the mainstream society, as well as avoid the company of peers and adults from the mainstream society. The immigrant youth may, in turn, remain more engaged with peers and adults from their own culture, who may be more accepting of their shy behaviours. In other words, among the four acculturation modes, these youth are more likely to be separated. **Therefore, I hypothesized that Chinese immigrant youth who are separated would have higher scores on shyness than Chinese immigrant youth who are not separated.** In contrast, immigrant youth who are less shy will not face as much of a problem in being accepted by peers and adults from the mainstream society and may be more inclined to seek interaction with peers and adults from both cultures. **Hence, I hypothesized that Chinese immigrant youth who are integrated would have the lowest scores on shyness, compared to youth who adopted the other three acculturation modes.**

Integration has been linked to positive adaptation for immigrant youth, both psychologically and socio-culturally. However, this relationship between integration and positive adaptation may vary depending on youth's level of shyness. Shyer immigrant youth who are integrated may find acceptance and social support from peers and adults from their own culture. At the same time, however, they may also be more likely to

experience rejection when they seek to interact with peers and adults from the mainstream society. This may, in turn, affect their adaptation when attempting to acculturate to the mainstream society. For example, peer rejection has been linked to depression, loneliness, and other problems of internalization for children and adolescents (Coie, Lochman, Terry, & Hyman, 1992; Lansford et al., 2007). Hence, shyness may serve to moderate the relationship between integration and adaptation. **I hypothesized that the Chinese immigrant youth who are integrated would have better psychological adaptation than those who are not integrated. However, this relation would be moderated by shyness, in that youth who are integrated would be more affected, in terms of their psychological adaptation, by shyness than those who are not integrated.**

**In addition, Chinese immigrant youth who are integrated would have better socio-cultural adaptation than those who are not integrated. However, this would not vary according to the level of shyness because peer rejection has been associated mainly with indices of psychological adaptation (e.g., internalizing problems) and not with indices of socio-cultural adaptation.**

#### *Shyness in relation to Sociability*

Since acculturating or navigating between two cultures requires a significant amount of social interaction, it is reasonable to expect a relationship between sociability and acculturation modes. In addition, it is fundamental to examine how a combination of shyness and sociability would affect the acculturation experiences and adaptation of immigrant youth. In fact, the expression of shy behaviours has often been explored in relation to sociability (Asendorpf & Meier, 1993; Cheek & Buss, 1981). For example,

Cheek and Buss (1981) examined the relationship between shyness and sociability and found that they were distinct traits. Individuals who were high on shyness did not necessarily report low sociability. Hence, contrary to common lay judgements, shyness is not merely low sociability (Santesso, Schmidt, & Fox, 2004). For example, an individual might be high in shyness but low in sociability while another individual might be high in shyness as well as high in sociability. Individuals who are high in shyness and high in sociability are of special interest to researchers because these individuals often are highly desirous of social interaction but this desire is inhibited by social fear and anxiety (Coplan et al., 2004). This conflicted motivation has been linked to poor adjustment, such as drug and alcohol use, for young adults aged between 18 and 27 years (Bruch, Rivet, Heimberg, & Levin, 1997; Santesso et al., 2004).

Immigrant youth who are high in sociability are likely to crave more social contacts. As a result, they may be inclined to seek interaction with peers and adults from both cultures. **Therefore, I hypothesized that Chinese immigrant youth who are integrated would have higher scores on sociability than Chinese immigrant youth who are not integrated.** In addition, shy and more sociable immigrant youth who seek to integrate may experience negative adaptation instead of positive adaptation. These youth have a very strong desire to be involved with the mainstream society but they are too fearful or anxious to initiate social interactions. In addition, their high anxiety may deter them from interacting with individuals even from their culture of origin. This may, in turn, lead to depression or other internalizing problems. **Therefore, I hypothesized that the differences in psychological adaptation between high shy, high sociable**

**youth and high shy, low sociable youth would be greater for integrated group than non-integrated group.**

### *Summary*

To summarize, this study examined three main goals: (a) the relation between shyness and the acculturation modes of Chinese immigrant youth; (b) whether shyness moderates the relationship between integration and psychological and socio-cultural adaptation; and (c) if shyness, in conjunction with sociability, moderates the relationship between integration and both forms of adaptation. More precisely, I hypothesized the following:

- (1) Chinese immigrant youth who are separated would have higher scores on shyness than those who are integrated, assimilated or marginalized.
- (2) Chinese immigrant youth who are integrated would have lower scores on shyness than those who are assimilated or marginalized.
- (3) Chinese immigrant youth who are integrated would be more likely to have better psychological adaptation than those who are not integrated. However, this would vary according to their shyness, in that the integrated group would be more affected by shyness than the non-integrated group.
- (4) Chinese immigrant youth who are integrated would be more likely to have better socio-cultural adaptation than those who are not integrated. This would not be moderated by shyness.
- (5) Chinese immigrant youth who are integrated would have higher scores on sociability than those who are assimilated, separated or marginalized.

- (6) The differences in psychological adaptation between high shy, high sociable Chinese immigrant youth and high shy, low sociable Chinese immigrant youth would be greater for the integrated group than the non-integrated group.

## METHOD

### Procedure

#### *Recruitment*

Clearance from Brock University's Research Ethics Board was obtained prior to recruitment (see Appendix A). As this study carried a very low risk, exemption from parental consent for 16 and 17 year old youth was also obtained from the Research Ethics Board.

Participants were recruited in four ways. First, I contacted the Chinese Cultural Centres in Toronto and the study was made known to immigrants who were taking English language classes. Second, I contacted the ministers from a number of Chinese churches in St. Catharines and Toronto and attended their Sunday service to make my study known to the congregation. Third, I posted the study on the University of Toronto's and Ryerson University's Chinese Students Association websites, as well as on the Brock University Psychology Department webpage, using a web-based experimental management software program (SONA). Last, I asked those who had participated to help make my study known to their families and friends.

In the initial phase, the study focused on recruiting first-generation Chinese immigrants between the ages of 16 and 24 years. Individuals who participated were entered in a draw for a \$50 gift voucher. However, because of difficulty in recruiting a sufficient number of participants, funding was obtained from the Centre of Excellence for Youth Engagement to pay each participant \$10 for completing the questionnaire. When difficulties in recruitment persisted, the sample of participants was modified to include



second-generation Chinese immigrants and the age range was extended to 26 years old (see Appendix A for ethics modification).

Paper and e-mail methods of administration were available to participants and are described below.

### *Paper Method*

The majority of participants (92.9%) completed the questionnaire by the paper method. Informed consent was first obtained from the participants. They completed the questionnaire either immediately or took the questionnaire home. Participants who took the questionnaire home returned it by post in a prepaid envelope. Upon receiving the questionnaire, a cheque for \$10 was mailed to the participants.

### *E-mail Method*

Participants who were unable to meet the researcher in person were sent an MSWord version of the questionnaire and informed consent form by e-mail. Informed consent was obtained from the participants by having them check a box that said, “Yes, I agree with the above information and consent to participate”. When the completed questionnaire had been returned by e-mail, a \$10 cheque was mailed to the participants.

### *Participants*

Participants were 99 young Chinese immigrants (42 men), ranging in age from 16 to 26 years old ( $M = 20.9$  years,  $SD = 3.42$ ). The generation status of the participants was divided according to whether or not they were Canadian-born. Participants who were born outside Canada were defined as first-generation immigrants and those who were born in Canada with at least one parent born outside Canada were defined as second-generation immigrants (Statistics Canada, 2007). However, one participant who was born

in Canada was grouped with the first-generation because she had lived in Canada for only 7 years.

In addition, as previous studies suggested that immigrants who landed in the receiving country earlier in their lives appeared to have experiences and adaptive outcomes that were closer to the native born second-generation (e.g., Rumbaut, 2004), I also separated the participants according to their age at migration. Following Berry et al. (2006), participants who were born outside Canada and those who arrived after the age of 6 years were grouped as first-generation while participants who were born in Canada and those who arrived before the age of 7 years were grouped as second-generation.

### Measures

The questionnaire booklet comprised several parts that assessed demographic information, acculturation, shyness, sociability, socio-cultural adaptation, and psychological adaptation (self-esteem, life satisfaction, and depression). It also included several other scales as part of a larger project on youth engagement. These scales assessed the extent of involvement and experiences with mainstream and Chinese activities. A summary of measures is presented in Table 1 and copies of all measures can be found in Appendix B.

Participants were given the choice to select either an English language version or Chinese language version of the questionnaire. To ensure that there were no discrepancies in the wording and meanings of the statements, I translated the questionnaire into Chinese and a graduate student who is a native Chinese back-translated it into English (Ying, 1995). Finally, the two versions of the questionnaire (in English and Chinese) were cross-checked for inconsistencies. There were only a few discrepancies, which were discussed

Table 1. *Summary of measures*

Construct	Measure	Scale and Scoring	Page in Appendix
Shyness	Revised Cheek and Buss 14-item shyness Scale (Crozier, 2005)	5-point scale, 1 (very uncharacteristic/strongly disagree) to 5 (very characteristics/strongly agree); averaged scores for the 14 items.	114
Sociability	California Psychological Inventory Socialization Subscale (Gough, 1987)	5-point scale, 1 (very inaccurate) to 5 (very accurate); averaged scores for the 10 items.	118
Acculturation modes	Modified Acculturation Rating Scale for Mexican Americans-II (ARSMA-II; Cuellar, Arnold, & Maldonado, 1995)	5-point scale, 1 (not at all) to 5 (extremely often or almost always); averaged scores for Chinese orientation and Anglo (Canadian) orientation.	112
Psychological adaptation	Life satisfaction scale (Diener, Emmons, Larsen, & Griffins, 1985)	7-point scale, 1 (strongly agree) to 7 (strongly disagree); averaged scores for the 5 items.	115
	10-item Rosenberg self-esteem scale (Rosenberg, 1965)	4-point scale, 1 (strongly agree) to 4 (strongly disagree); averaged scores for the 10 items.	118
	Centre for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977)	4-point scale, 0 (less than a day) to 3 (5-7 days); averaged scores for the 20 items.	119
Socio-cultural adaptation	Socio-cultural adaptation scale (Ward & Kennedy, 1994)	5-point scale, 1 (no difficulty) to 5 (extreme difficulty); averaged scores for the 29 items.	116

until an agreement was reached.

The scores of each participant for each measure were averaged if participants were not missing more than two responses per scale. According to Tabachnick and Fidell (2001), this was an acceptable and effective way to handle missing data. Overall, there was only a very small percentage of missing data, which is described in the Results section.

### *Demographic Information*

The demographic characteristics of the participants are described in Table 2. Participants were asked to indicate their age, sex, country of birth, city in which they were currently residing, length of residence in Canada, highest education obtained by parents and participants, neighbourhood composition, and English language proficiency. Self-reported English language proficiency was assessed using a 5-point scale (1 = *extreme difficulty* and 5 = *no difficulty*), on the following areas: speaking, reading, writing, and understanding. Responses for the four items were averaged so that higher scores reflected higher English proficiency. Comparable methods of measuring English language competency have been established in previous studies with Asian youth and have demonstrated good internal consistency, with a coefficient  $\alpha$  of .84 (Constantine, Okazaki, & Utsey, 2004; Terry, Perry, Lalonde, & Smith, 2006). Internal consistency of the language competency in the present study was high, with an  $\alpha$  of .91.

### *Shyness*

The Revised Cheek and Buss 14-item Shyness Scale (Crozier, 2005) was used to assess shyness. Participants were asked to rate the items (*e.g., I feel inhibited in social situations*) according to how characteristic they were of their feelings and behaviours on a

Table 2. *Demographic Characteristics of Participants by Questionnaire Method and Language Version*

Variable	n	Method n (%)		Language n (%)		% Total
		Hard Copy	E-mail	English Version	Chinese Version	
Sex						
Male	42	39 (92.9)	3 (7.1)	38 (90.5)	4 (9.5)	42.4
Female	57	53 (93.0)	4 (7.0)	50 (87.7)	7 (12.3)	57.6
Generation						
First	43	39 (90.7)	4 (9.3)	32 (74.4)	11 (25.6)	43.4
Second	56	53 (94.6)	3 (5.4)	56 (100.0)	0 (0.0)	56.6
Generation <sup>1</sup> (Age at migration)						
First	35	31 (88.6)	4 (11.4)	24 (68.6)	11 (31.4)	35.4
Second	64	61 (95.3)	3 (4.7)	64 (100.0)	0 (0.0)	64.6
Country Born						
Canada	56	53 (94.6)	3 (5.4)	56 (100.0)	0 (0.0)	56.6
China	21	20 (95.2)	1 (4.8)	10 (47.6)	11 (52.4)	21.2
Hong Kong	17	15 (88.2)	2 (11.8)	17 (100.0)	0 (0.0)	17.2
Malaysia	1	1 (100.0)	0 (0.0)	1 (100.0)	0 (0.0)	1.0
Taiwan	3	3 (100.0)	0 (0.0)	3 (100.0)	0 (0.0)	3.0
U.S.A	1	0 (0.0)	1 (100.0)	1 (100.0)	0 (0.0)	1.0

<sup>1</sup> First generation = Participants born outside Canada and arrived after the age of 6 years, Second generation = Participants born in Canada or arrived before the age of 7 years; First generation (12 men, 23 women), Second generation (30 men, 34 women); First generation (Mean age = 21.1, SD = 3.6), Second generation (Mean age = 20.8, SD = 3.3)

Table 2. *Demographic Characteristics of Participants by Questionnaire Method and Language Version (Continued)*

Variable	n	Method n (%)		Language n (%)		% Total
		Hard Copy	E-mail	English Version	Chinese Version	
Length of Residence In Canada						
6 years or less	17	16 (94.1)	1 (5.9)	7 (41.2)	10 (58.8)	17.2
7 – 15 years	16	15 (93.8)	1 (6.2)	15 (93.8)	1 (6.2)	16.2
16 – 21 years	42	39 (92.9)	3 (7.1)	42 (100.0)	0 (0.0)	42.4
22 years or more	24	22 (91.7)	2 (8.3)	24 (100.0)	0 (0.0)	24.2
Neighbourhood Profile						
Mainly Chinese	24	24 (100.0)	0 (0.0)	18 (75.0)	6 (25.0)	24.2
Mainly Caucasian	12	10 (83.3)	2 (16.7)	12 (100.0)	0 (0.0)	12.1
Other groups	7	6 (85.7)	1 (14.3)	6 (85.7)	1 (14.3)	7.1
Mixed Ethnicities	56	52 (92.9)	4 (7.1)	52 (92.9)	4 (7.1)	56.6
Participant's Highest Education <sup>2</sup>						
Elementary School	0	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0.0
Some High School	22	22 (100.0)	0 (0.0)	18 (81.8)	4 (18.2)	22.4
Completed High School	12	10 (83.3)	2 (16.7)	9 (75.0)	3 (25.0)	12.2
Community College	4	3 (75.0)	1 (25.0)	2 (50.0)	2 (50.0)	4.1
Some University	23	20 (87.0)	3 (13.0)	22 (95.7)	1 (4.3)	23.5
Completed University	32	31 (96.9)	1 (3.1)	32 (100.0)	0 (0.0)	32.7
Master's Degree or above	5	5 (100.0)	0 (0.0)	4 (80.0)	1 (20.0)	5.1

<sup>2</sup>Missing n = 1

Table 2. *Demographic Characteristics of Participants by Questionnaire Method and Language Version (Continued)*

Variable	n	Method n (%)		Language n (%)		% Total
		Hard Copy	E-mail	English Version	Chinese Version	
Father's Highest Education <sup>3</sup>						
Elementary School	3	3 (100.0)	0 (0.0)	3 (100.0)	0 (0.0)	3.1
Some High School	9	8 (88.9)	1 (11.1)	9 (100.0)	0 (0.0)	9.3
Completed High School	21	18 (85.7)	3 (14.3)	17 (81.0)	4 (19.0)	21.7
Community College	11	10 (90.9)	1 (9.1)	11 (100.0)	0 (0.0)	11.3
Some University	4	3 (75.0)	1 (25.0)	3 (75.0)	1 (25.0)	4.1
Completed University	37	37 (100.0)	0 (0.0)	32 (86.5)	5 (13.5)	38.1
Master's Degree or above	12	11 (91.7)	1 (8.3)	11 (91.7)	1 (8.3)	12.4
Mother's Highest Education <sup>4</sup>						
Elementary School	5	5 (100.0)	0 (0.0)	4 (80.0)	1 (20.0)	5.2
Some High School	8	6 (75.0)	2 (25.0)	7 (87.5)	1 (12.5)	8.2
Completed High School	25	21 (84.0)	4 (16.0)	21 (84.0)	4 (16.0)	25.8
Community College	13	13 (100.0)	0 (0.0)	12 (92.3)	1 (7.7)	13.4
Some University	4	4 (100.0)	0 (0.0)	4 (100.0)	0 (0.0)	4.1
Completed University	37	36 (97.3)	1 (2.7)	34 (91.9)	3 (8.1)	38.1
Master's Degree or above	5	5 (100.0)	0 (0.0)	4 (80.0)	1 (20.0)	5.2

<sup>3</sup>Missing *n* = 2<sup>4</sup>Missing *n* = 2

5-point scale, ranging from *very uncharacteristic/strongly disagree* (1) to *very characteristic/strongly agree* (5). After reversing the scores of four items, responses to the 14 items were averaged, with higher scores reflecting higher shyness. This measure has demonstrated sound internal consistency, with  $\alpha$  of .86 (Crozier, 2005).

### *Sociability*

Sociability was assessed using the California Psychological Inventory Socialization subscale (CPI (Sy); Gough, 1996). Participants were asked to rate 10 items (*e.g., talk to a lot of different people at parties*) according to how accurately each statement described them on a 5-point scale, ranging from *very inaccurate* (1) to *very accurate* (5). After reversing the scores of five items, average scores were obtained with higher scores indicating higher sociability. This measure had been reported to have a good internal consistency (Cronbach's  $\alpha = .87$ ) (International Personality Item Pool). Although consistent in direction with the results from Cheek and Buss (1981), in which sociability was negatively correlated with shyness ( $r = -.30$ ), these two variables in the present study were highly negatively correlated ( $r = -.81, p < .001$ ). Possible explanations were discussed in the discussion section.

### *Acculturation*

Participants' acculturation strategies were measured using an adapted version of the Acculturation Rating Scale for Mexican Americans-II (ARSMA-II; Cuellar, Arnold, & Maldonado, 1995). ARSMA-II is an orthogonally designed acculturation scale that allows participants to obtain high or low scores for each culture (Anglo and Mexican culture), independent of the other. It includes items that assess (a) language use and preference, (b) ethnic identity and classification, (c) cultural heritage and ethnic



behaviours, and (d) ethnic interaction. In addition, it contains items that measure the participants' acceptance of attitudes and behaviours with the Anglo and Mexican cultures independently. This measure has demonstrated good internal consistency, with  $\alpha$  of .86 for Anglo orientation and .88 for Mexican orientation (Cuellar et al., 1995). It has also been used successfully in studies examining acculturation among Chinese-Canadian youth and has demonstrated good internal consistency, with an  $\alpha$  of .88 for Chinese orientation (Chia & Costigan, 2006; Costigan & Dokis, 2006).

In the present study, the scale was adapted by replacing "Anglo" with "Anglo-Canadian" and "Mexican" with "Chinese". Three items were removed from the analysis because there were no corresponding Anglo-Canadian orientation items. The final list comprised 19 "Chinese orientation" items and 19 equivalent "Canadian orientation" items. Participants rated the items on a 5-point scale, ranging from *not at all* (1) to *extremely often or almost always* (5). A sample item is "*I enjoy Chinese language TV*" (Chinese orientation) and "*I enjoy English language TV* (Anglo-Canadian orientation). After reversing the scores of 5 items on both scales, items related to Chinese culture were summed to form the Chinese orientation subscale and items related to the mainstream society (Canada) were summed to form the Canadian orientation subscale. Canadian orientation was significantly correlated with Chinese orientation ( $r = -.21, p < .05$ ). The classification of acculturation modes is discussed in the results section.

### *Psychological adaptation*

Psychological adaptation was assessed with three scales: life satisfaction, self-esteem, and self-rated depression. These three scales have been employed to measure psychological adaptation in several studies and have been used successfully in studying

multi-ethnic immigrant youth, including Chinese immigrant youth (Berry et. al., 2006, Costigan & Dokis, 2006; Farver et al., 2002; Huntsinger & Jose, 2006).

*Life Satisfaction.* The Life Satisfaction Scale (Diener, Emmons, Larsen, & Grifflins, 1985) assesses the participants' overall degree of satisfaction with their lives. Participants rated the five items (*e.g., the conditions of my life are excellent*) on a 7-point scale, ranging from *strongly agree* (1) to *strongly disagree* (7). All the items were reversed-scored and average scores were obtained, with higher scores representing higher satisfaction. This measure has demonstrated fairly good internal consistency, with  $\alpha$ s ranging from .79 to .89 (Pavot & Diener, 1993).

*Self-esteem.* The 10-item Rosenberg Self-Esteem Scale (1965) was used to measure participants' self-esteem. Participants responded to the items (*e.g., I feel that I have a number of good qualities*) based on a 4-point scale, ranging from *strongly agree* (1) to *strongly disagree* (4). After five items were reversed-scored, the scores were averaged, with higher scores indicating higher self-esteem. This measure has shown fairly good internal consistency, with  $\alpha$  of .75 (Berry et al., 2006).

*Depression.* Self-rated depression was assessed using the Centre for Epidemiologic Studies Depression Scale (CES-D). The CES-D Scale assesses depression based on 20 items. Participants were asked to report the frequency that they felt or behaved in a certain way over the past week. They responded to the items (*e.g., I felt depressed*) based on a 4-point scale, ranging from *rarely or none of the time (less than one day)* (1) to *most or all of the time (5 to 7 days)* (4). To ensure that the direction of the scores was consistent with the life satisfaction and self-esteem scales, 16 items were

reversed scored so that higher scores reflected less depression (low depression). This measure has demonstrated good internal consistency, with  $\alpha$  of .85 (Radloff, 1977).

### *Socio-cultural adaptation*

The Ward and Kennedy Socio-Cultural Adaptation Scale was employed as a measurement of sociocultural adaptation. This scale assesses the ability to acquire culturally appropriate skills and negotiate effectively in the mainstream society. Participants were asked to rate the amount of difficulty they experienced in various social situations (*e.g., the amount of difficulty in "making yourself understood" in Canada*) based on a 5-point scale, ranging from *no difficulty* (1) to *extreme difficulty* (5). All 29 items were reversed-scored so that higher scores represented less difficulty navigating in the mainstream society (*i.e., better socio-cultural adaptation*). This measure has consistently been shown to be valid and reliable (Cronbach's  $\alpha = .88$ ) and has been used with various sojourner samples (Searle & Ward, 1990; Ward & Kennedy, 1994).

## RESULTS

### Structure of Data Analysis

Data were screened for missing data, normality, and outliers and the results are described below. Additional modifications made to the data are also described.

#### *Missing Data*

A frequency analysis was performed to determine the percentage of missing data. Table 3 shows a summary of the missing data. Missing data for all of the variables, with the exception of socio-cultural adaptation, were below the acceptable limit of 5% set by Tabachnik and Fidell (2001).

Table 3. *Percentage of missing data by variable*

Variable	Percentage	n
Canadian orientation	1.01	1
Chinese orientation	1.01	1
English proficiency	.00	0
Psychological adaptation		
Life satisfaction	.00	0
Self-esteem	.00	0
Low Depression	1.01	1
Shyness	1.01	1
Sociability	.00	0
Socio-cultural adaptation	5.05	5

*Note.*  $n = 99$

Even though the percentage of missing data for socio-cultural adaptation was above the acceptable limit, it was above the limit by only .05%. Therefore, no further analysis of the missing data was conducted. It should be noted that the missing data for the Chinese and Canadian orientation measures involved the same participant and because this participant was missing more than two responses per scale, the case was simply removed from the relevant analyses.

### *Distributions*

The data were screened for normality and the presence of outliers. Skewness and kurtosis values were examined to determine if the distributions were adequately normal and the values are presented in Table 4. According to George and Mallery (2003), a distribution was considered perfectly normal if skewness and kurtosis values were zero; excellent if the values were between  $\pm 1$ ; and acceptable if the values were between  $\pm 2$ . As shown in Table 4, all distributions, except English proficiency, had excellent or acceptable skewness and kurtosis values.

Table 4. *Skewness and Kurtosis*

Scales	Skewness	Kurtosis
Canadian orientation	-.50	-.28
Chinese orientation	.35	-.61
English proficiency	-2.18	4.09
Psychological adaptation		
Life satisfaction	-.53	-.25
Self-esteem	.12	-.52
Low Depression	-1.18	1.43
Shyness	.38	.38
Sociability	.02	-.53
Socio-cultural adaptation	-.79	-.12

The skewness value for English proficiency was close to the acceptable range but its kurtosis was not. The distribution was negatively skewed and its curve appeared to be more peaked than a normal curve. However, this non-normality resulted from a large number of participants (69.7%) reporting that they had no difficulty in speaking, reading, writing, and understanding English. Two reasons for non-normality are the presence of outliers and the nature of the variable itself (Osborne, 2002). There were two outliers with z-scores of -3.83 and -3.40 but even after removing the outliers, the kurtosis value was still within the unacceptable range of 3.92. Therefore, a data transformation was

employed to improve the normality of distribution. Two transformations were applied and considered: square root transformation and log transformation.

As the distribution was negatively skewed, I reflected the distribution by subtracting all the values for English proficiency from one plus the absolute value of the maximum value for English proficiency. Hence, the transformations were calculated as follows:

1. Square root transformation: Compute  $\text{sqrtEngpro} = \text{SQRT}(6 - \text{Englishproficiency})$
2. Log transformation: Compute  $\text{logEngpro} = \text{LG10}(6 - \text{Englishproficiency})$

After the square root transformation, the skewness value was within the acceptable range of 1.92 while the kurtosis value was not. After the log transformation, both skewness and kurtosis values were within the acceptable range of 1.69 and 1.72 respectively. According to Osborne (2002), a good guideline when deciding which transformation to employ is to use the minimum amount of transformation necessary to improve normality. Hence, the square root transformation was eventually selected.

### *Outliers*

To identify outliers on predictors and criteria, z-scores were obtained and examined. Z-scores greater than  $\pm 3.29$  ( $p < .001$ , two-tailed test) signify potential outliers (Tabachnick & Fidell, 2001). Only one variable, low depression, had an outlier of  $-3.68$  (ID 81). When the distribution of this variable was examined with this outlier deleted, both the skewness and kurtosis values improved to  $-.95$  and  $.50$  respectively. However, as shown on Table 4, even with this outlier, the skewness and kurtosis values were still within the acceptable range. Thus, the outlier was retained at this point and Cook's

distance was examined (described in the main analyses, p. 66) to determine if it was an influential point.

### *Linearity*

The scatterplots of the criterion variables with the predictor variables suggested linear relationships and the preliminary multiple regression analysis did not reveal any significant curvilinear relationships.

### *Potential Effects of Method and Language Version*

The potential effect of method of administration was checked prior to data analysis. Independent t-tests were calculated with method as the grouping variable for each independent and dependent variable. No significant difference was found for any of the variables.

The potential effect of the language version of the questionnaire was also checked prior to data analysis. Independent t-tests were calculated with version as the grouping variable for each independent and dependent variable. The t-tests for life satisfaction, Chinese orientation, and Canadian orientation were significant ( $t(99) = 2.14, p = .04$ ;  $t(98) = -4.71, p < .001$ ;  $t(98) = 4.74, p < .001$  respectively). More specifically, participants who completed the Chinese questionnaire reported lower life satisfaction, higher Chinese orientation, and lower Canadian orientation than those who completed the English questionnaire. Therefore, the questionnaire language version was controlled for when life satisfaction was used as the criterion variable. On the other hand, since Chinese and Canadian orientations were intended to be used as the predictor variables, there was no need to control for language version in analyses using orientation.

### *Measures of Psychological Adaptation*

Life satisfaction was significantly correlated with self-esteem ( $r = .54, p < .001$ ), as well as low depression ( $r = .38, p < .001$ ). In addition, self-esteem was significantly correlated with low depression ( $r = .45, p < .001$ ). To check if it was psychometrically appropriate to combine the three measures to form a single index, a reliability analysis was performed. The three measures together yielded an internal consistency of  $\alpha$  of .59. Removing any one of the measures did not increase the scale's reliability. When self-esteem was removed, the internal consistency dropped to  $\alpha$  of .35. When low depression was deleted, the internal consistency dropped slightly to  $\alpha$  of .58.

The number of items in a scale impacts its reliability; the alpha increases as the number of items on the scale increases (Norusis, 2005). Thus, it is not surprising that the reliability of psychological adaptation in the current study is low because it comprised only three items. Hence, although the reliability for the combined measures was weak, a decision was made to aggregate the three measures to form a single measure but also to analyze each of the three measures separately. The scores for the three measures were standardized and summed to generate participants' psychological adaptation, with higher scores indicating better psychological adaptation.

### *Classification of Acculturation Modes*

Classification of the four acculturation modes was achieved by subjecting the heritage cultural orientation and the mainstream cultural orientation scales to a bipartite split (Dona & Berry, 1994). A cut-off criterion (described below) was selected. More specifically, the integration mode was assigned when both the heritage and mainstream cultural orientation scores were above the cut-off point. The marginalization mode was



assigned when both cultural orientation scores were equal to or below the cut-off point. The assimilation mode was assigned when the score for mainstream cultural orientation was above the cut-off point and the score for the heritage cultural orientation was below or equal to the cut-off point. The separation mode was assigned when the score for heritage cultural orientation was above the cut-off point and the score for the mainstream cultural orientation was below or equal to the cut-off point.

There are two common approaches to splitting the scales: median split and midpoint split. According to Ward and Rana-Deuba (1999), a midpoint split allows for greater cross-sample comparisons whereas a median split, which has some limitations for cross-sample comparisons, relies on relative comparison within a group. In the present study, both approaches were undertaken and compared.

Following the midpoint split approach used by Dona and Berry (1994), on a scale of 1 to 5, the neutral point of 3 was selected as the cut-off point. Using participants' mean scores on the 19 items, this approach resulted in classifying 26 (26.5%) participants as assimilated, 5 (5.1%) as separated, 66 (67.4%) as integrated, and 1 (1.0%) as marginalized. This, unfortunately, did not allow for further meaningful comparisons across the four acculturation groups.

Using the median split approach, 66 (range of 35 to 95) was the cut-off point for Chinese orientation while 77 (range of 49 to 95) was the cut-off point for Canadian orientation. This approach, in contrast, resulted in classifying 28 (28.6%) participants as assimilated, 28 (28.6%) as separated, 19 (19.4%) as integrated, and 23 (23.4%) as marginalized. Therefore, this more evenly distributed classification scheme was used in

subsequent analyses. Figures 2 and 3 show the results of the classification using the midpoint and median split approaches.

### Descriptive Statistics

Table 5 shows the means, ranges, standard deviations, and Cronbach's alpha for each of the variables used in this study.

Table 5. *Variable means, standard deviations, ranges, and Cronbach's alpha*

Variables (scale range)	Mean	SD	Range	Cronbach's $\alpha$
English proficiency (1-5)	4.70	.58	2.50 - 5.00	.91
Canadian orientation (1-5)	3.99	.56	2.58 - 5.00	.88
Chinese orientation (1-5)	3.53	.73	1.84 - 5.00	.91
Shyness (1-5)	2.78	.68	1.43 - 4.93	.87
Sociability (1-5)	3.33	.77	1.80 - 5.00	.89
Psychological adaptation <sup>1</sup>	.00	.80	-2.25 - 1.68	.59
Life satisfaction (1-7)	4.93	1.19	1.80 - 7.00	.85
Self-esteem (1-4)	3.04	.53	1.80 - 4.00	.91
Low Depression (1-4)	3.30	.37	1.95 - 3.90	.83
Socio-cultural adaptation (1-5)	4.21	.52	2.83 - 4.97	.93

<sup>1</sup> Scores were standardized

### Relationship between Measures

To assess relationships between variables, Pearson correlations coefficients were computed. Zero-order correlations among the variables are presented in Table 6.

Correlations between demographic (sex, age, generation status, English proficiency, and length of residence) and model variables were examined. As shown on Table 6, Chinese orientation was significantly and negatively correlated with age, generation status, English proficiency, and number of years in Canada. More specifically, the older the participants were, the less Chinese-oriented they were. In addition, the second-generation participants rated themselves as less Chinese-oriented than the first generation

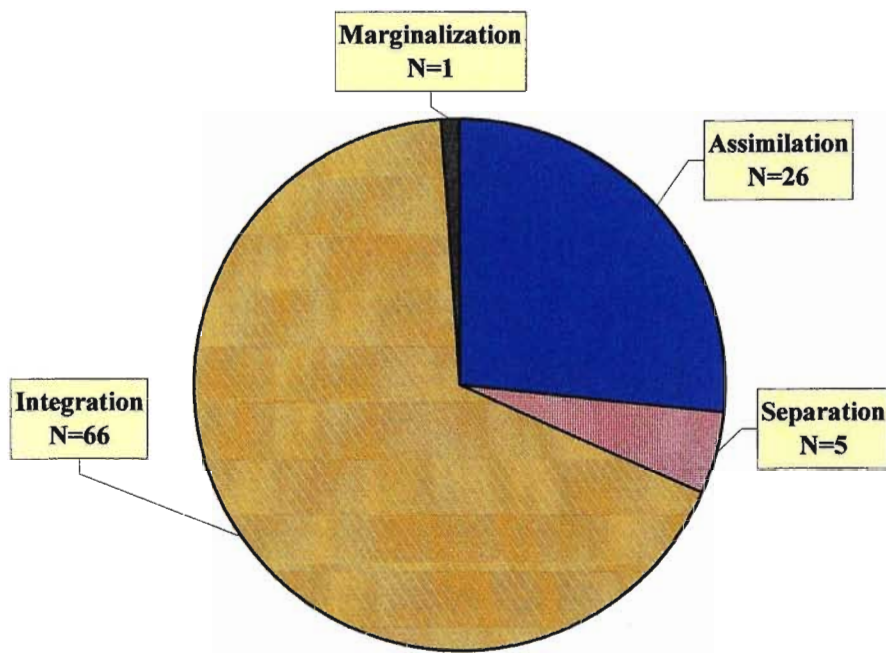


Figure 2. Acculturation classifications based on midpoint split technique ( $N=98$ )

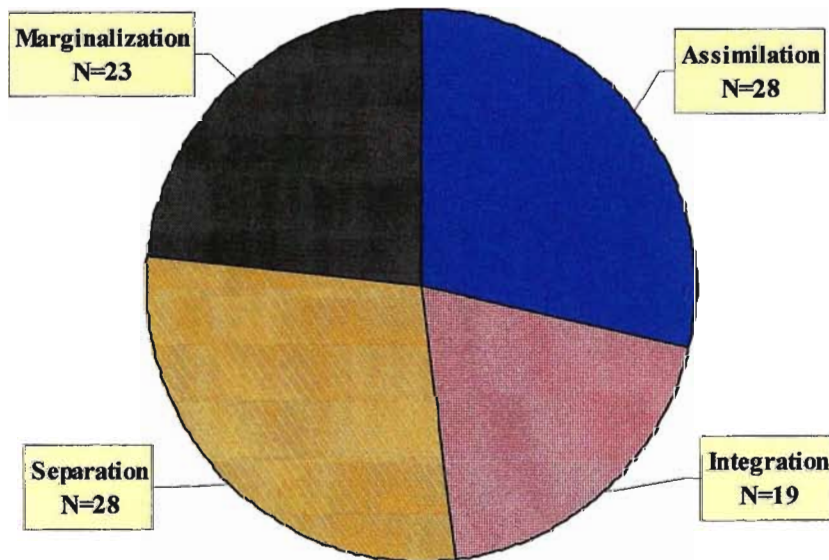


Figure 3. Acculturation classifications based on median split technique ( $N=98$ )

Table 6. Zero-order correlations among variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Sex	-														
2. Age	-.18	-													
3. Generation	-.08	-.02	-												
4. Generation (Age at Migration)	-.11	-.03	.80***	-											
5. English Proficiency	-.13	.05	.36***	.45***	-										
6. Number of years in Canada	-.20*	.43***	.72***	.80***	.59***	-									
7. Canadian Orientation	-.00	-.10	.27**	.32**	.58***	.37***	-								
8. Chinese Orientation	.17	-.20*	-.48***	-.57***	-.49***	-.63***	-.21*	-							
9. Shyness	-.03	-.06	.05	.60	-.15	-.00	-.37***	-.02	-						
10. Sociability	.07	.08	-.10	-.07	.12	-.00	.29**	.04	-.82***	-					
11. Psychological Adaptation	-.04	.13	.09	.14	.30**	.24*	.45***	-.02	-.57***	.50***	-				
12. Life Satisfaction	.05	.05	.07	.17	.19	.23*	.33**	.00	-.28**	.30**	.79***	-			
13. Self-esteem	-.08	.18	.15	.14	.37***	.25*	.38***	-.07	-.63***	.51***	.82***	.52***	-		
14. Low Depression	-.07	.09	.00	.02	.15	.08	.35***	.03	-.43***	.36***	.75***	.34**	.42***	-	
15. Socio-cultural Adaptation	.05	-.07	.17	.15	.35***	.21*	.52***	-.06	-.39***	.33**	.48***	.34**	.36***	.44***	-

Note. Male=1, Female=2; First generation=1, Second Generation=2

† $p < .10$ ; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$  two-tailed

participants. Furthermore, the more Chinese-oriented the participants were, the less proficient they rated their English skills. Last, the more Chinese-oriented the participants were, the fewer number of years they had spent in Canada. In contrast, Canadian orientation was significantly and positively correlated with the demographic variables, with the exception of sex and age.

Length of residence in Canada was also significantly and positively correlated with psychological adaptation and socio-cultural adaptation, such that the longer the length of residence in Canada, the better the psychological and socio-cultural adaptation. When the three measures that made up psychological adaptation were examined separately, length of residence was significantly and positively correlated with life satisfaction and self-esteem but not lack of depression.

Canadian orientation was significantly correlated with all the predictor and criterion variables. The more Canadian-oriented the participants were, the less shy and more sociable they were, and the better their psychological and socio-cultural adaptation. In terms of psychological adaptation, the more Canadian-oriented the participants were, the higher their life satisfaction, self-esteem, and lack of depression.

Shyness was also significantly and negatively correlated with all the predictor and criterion variables. Participants who were shyer were more likely to have poorer psychological and socio-cultural adaptation. They were more likely to report lower life satisfaction, self-esteem and "low" depression. Shyness was highly negatively correlated with sociability and this might suggest potential multicollinearity. The high correlation might also be due to the characteristics of the sample under study. However, the

unexpectedly high correlation between shyness and sociability is noted and the results obtained will be considered with caution in the discussion section.

Sociability, life satisfaction, self-esteem, low depression, psychological adaptation, and socio-cultural adaptation were all significantly and positively correlated with one another. Consistent with Ward and Kennedy (1994) that psychological and socio-cultural adaptation was interrelated but conceptually dissimilar, psychological adaptation was moderately correlated with socio-cultural adaptation in the present study.

### Hypotheses Testing

The six hypotheses were tested by means of hierarchical multiple regression analyses. Residuals analyses were also conducted to ensure that there was no violation of assumptions as well as to check for influential points.

### Hypothesis One

#### *Shyness and Separation Mode*

Hypothesis one predicted that Chinese immigrant youth who were separated would have higher scores on shyness than those who were assimilated, integrated, or marginalized. As acculturation strategy was a categorical variable, the categories were dummy coded. With dummy coding, membership in a given category is assigned "1", whereas nonmembership in the category is assigned "0". I selected the separation group as the reference category to be compared with because it was the main interest in this hypothesis. Since acculturation mode has four categories, three new dummy variables were created as follows:

	D1	D2	D3
1. Assimilation	1	0	0
2. Separation	0	0	0
3. Integration	0	1	0
4. Marginalization	0	0	1

If D1, D2, and D3 are coded 0, then the reference category is separation. Thus, the coefficients for the dummy variables are interpreted as the difference between that category and the reference category. In other words, D1 is the difference between separation and assimilation; D2 is the difference between separation and integration; and D3 is the difference between separation and marginalization.

### *Residuals Analysis*

Examinations of the histogram and the normal probability plot indicated that the distribution was normal. In addition, the Kolmogorov-Smirnov test was not significant ( $p = .71$ ), indicating that the data were normally distributed. The scatterplot of standardized residuals against predicted values did not indicate any problem with the assumption of homoscedasticity. The Durbin Watson statistic was conducted to test if the residuals were independent of each other. I also plotted the standardized residuals against the ID number. The Durbin Watson was 1.80, which was between the expected values of 1.5 and 2.5, and the scatterplot suggested that the residuals were independent of each other.

### *Influential Points*

There was no high leverage point indicating unusual combinations of values for the predictor variables ( $h > 3k/N = h > 3(3)/98 = h > .09$ ). There were also no cases with large Mahalanobis distance ( $16.27 (\chi^2(3), p < .001)$ ). Cook's distance statistic was also calculated to determine if there were any influential points. According to Norusis (2005), Cook's distances that are greater than one are usually of concern. At the same time,

points that are not greater than one but are somewhat further removed from the rest of the cases should also be examined. No influential points were found in the current data using Cook's distance.

### *Main Analysis: Shyness and Separation*

The means and standard deviations of shyness for the four acculturation groups are presented in Table 7.

Table 7. *Means and standard deviations of shyness of the acculturation groups*

Acculturation groups	Mean	SD
Assimilation	2.54	.64
Separation	3.01	.50
Integration	2.51	.68
Marginalization	3.04	.78

To address hypothesis one, shyness was entered as the criterion in the analysis. As shyness was not correlated with any of the demographic variables, there was no need to include any of the variables in the model and the dummy variables were entered simultaneously on the first step as predictors. If the predictors were significant, it would indicate that there were differences in shyness between groups. The results of the analysis are presented in Table 8.

Table 8. *Multiple regression analysis predicting shyness from acculturation modes, with separation as reference category*

Variables	$R^2_{\Delta}$	$F_{\Delta}$	df	B	SE	p	sr	pr
Separation vs. assimilation				-.48	.17	.01	-.27	-.28
Separation vs. integration				-.50	.19	.01	-.25	-.26
Separation vs. marginalization	.14	4.88	3, 94	.02	.18	.90	.01	.01



The overall model for this analysis was significant ( $F(3, 94) = 4.88, p = .003$ ), accounting for approximately 14% ( $Adjusted R^2 = .11$ ) of the variability in shyness. As shown in Table 8, the test revealed that separation versus assimilation and separation versus integration, but not separation versus marginalization, were significant predictors of shyness. More specifically, there were significant differences in shyness between the separation and assimilation group as well as between the separation and integration group. However, there was no significant difference in shyness between the separation and marginalization group. Thus, the prediction that participants who were separated would have higher scores on shyness than those who were assimilated and integrated was supported but not supported for marginalization group.

### Hypothesis Two

#### *Shyness and Integration Mode*

Hypothesis two predicted that Chinese immigrant youth who were integrated would have lower scores on shyness than those who were separated, assimilated, and marginalized. The integration group was used as the reference category for this analysis because it was the group to which the other groups were compared. The residuals analysis was described above.

#### *Influential Points*

There were no cases with high leverage point ( $h > 3k/N = h > 3(3)/98 = h > .09$ ) or large Mahalanobis distance ( $16.27 (\chi^2(3), p < .001)$ ). Cook's distance also did not reveal any influential points with a value greater than one or were further removed from the rest of the cases.

### *Main Analysis: Shyness and Integration*

The overall  $R^2$ , regression sum of squares, residuals sum of squares, and the F ratio are the same regardless of which group was used as the reference category (Pedhazur, 1997). As noted from the analysis reported above, the integration group reported lower scores on shyness than the separation group. When integration was the reference group, the results revealed that the integration group also reported significantly lower scores on shyness than the marginalization group (see Table 9). There was, however, no significant difference between the integration group and the assimilation group. Therefore, the prediction that participants who were integrated would have lower scores on shyness than those who were separated and marginalized was supported but the prediction was not supported for the assimilation group.

Table 9. *Multiple regression analysis predicting shyness from acculturation modes, with integration as reference category*

Variables	$R^2_{\Delta}$	$F_{\Delta}$	df	B	SE	p	sr	pr
Integration vs. assimilation				.02	.19	.90	.01	.01
Integration vs. separation				.50	.19	.01	.25	.26
Integration vs. marginalization	.14	4.88	3, 94	.53	.20	.01	.25	.26

### Hypothesis Three

#### *Integration, Shyness, and Psychological Adaptation*

Hypothesis three predicted that Chinese immigrant youth who were integrated would have better psychological adaptation than those who were not integrated. However, this relation was expected to vary according to the level of shyness. More precisely, integrated youth would be more affected, in terms of their psychological

adaptation, by shyness than those who were not integrated (the other three acculturation groups combined).

### *Residuals Analysis*

The histogram and normal probability plot did not suggest any violation of the normality assumption. In addition, the Kolmogorov-Smirnov test was not significant ( $p = .65$ ), which suggested that the data were normally distributed. The scatterplot of predictors and residuals did not reveal any major problem in terms of homoscedasticity. The Durbin Watson (value of 2.20) and the scatterplot suggested that the residuals were independent of each other.

### *Influential Points*

Cook's distance revealed a case that was somewhat further removed from the rest of the cases, although the value was not greater than one. This case also had a high leverage point of .34 ( $h > 3k/N = h > 3(5)/98 = h > .15$ ) and a large Mahalanobis distance of 32.60 ( $20.52 (\chi^2(5), p < .001)$ ). When its individual score for shyness and the three measures that made up psychological adaptation (i.e., life satisfaction, self-esteem, and low depression) were compared with the grand mean, the results revealed a case that had a very high score for shyness ( $M = 4.07$ ) and very low scores for life satisfaction and self-esteem ( $M = 1.80$  and  $2.00$  respectively). Yet the low depression score ( $M = 3.20$ ) was close to the low depression grand mean ( $M = 3.31$ ).

When searching for influential points, the residual, the leverage, and Cook's distance should be examined simultaneously (Norusis, 2005). In addition, changes in the regression coefficients (if standardized  $Df/Beta > \pm 1$ ) when the influential points are deleted should also be examined. Since this case was further removed from the rest of the

cases, had a high leverage point, and had a significant effect on the regression coefficients of the predictor variables (standardized  $Df\beta > \pm 1$ ), a decision was made to remove it from the analysis.

*Main Analysis: Integration, Shyness, and Psychological Adaptation*

In this analysis, membership in the integration group was assigned a value of “0”, while membership in the other three acculturation groups (i.e., assimilation, separation, and marginalization) was assigned a value of “1”. Therefore, the coefficient is the difference in predicted values for the group coded “1” (non-integrated) as compared to the group coded “0” (integrated).

Shyness, which was a continuous variable, was centred prior to computing the interaction terms. The interaction term was computed by multiplying the “centred” shyness with the dichotomous variable (integrated/non-integrated). Length of residence and English proficiency were entered in step one as control variables because they were significantly correlated with psychological adaptation and Canadian orientation. Shyness and the dichotomous variable (integrated/non-integrated) were entered next, followed by the interaction between shyness and the dichotomous variable. If the interaction entered on the third step was significant, it would indicate that the relationship between integration versus non-integration and psychological adaptation differed by shyness. The results of the analyses are presented in Table 10.

The overall model for the analysis was significant ( $F(5, 91) = 11.12, p < .001$ ), accounting for approximately 38% ( $Adjusted R^2 = .35$ ) of the variance in psychological adaptation. As shown in Table 10, step one, which comprised the control variables, was significant. Step two, which consisted of the main effects, accounted for a large part of

Table 10. *Hierarchical multiple regression analysis predicting psychological adaptation from shyness, acculturation modes, and shyness by acculturation interaction*

Variables	$R^2_{\Delta}$	$F_{\Delta}$	df	p	B	SE	sr	pr
1. Step One	.11	5.55	2, 94	.01				
Length of residence					.01	.01	.07	.08
English proficiency					-.90*	.42	-.21	-.22
2. Step 2	.27	19.62	2, 92	<.001				
Shyness					-.58**	.10	-.49	-.53
Integration vs. non-integration					-.13	.17	-.06	-.08
3. Step 3	.01	.91	1, 91	.34				
Shyness by integration vs. non-integration					-.26	.28	-.08	-.10

Note. \* $p < .05$ , \*\* $p < .001$

the variance. In particular, the main effect of shyness was significant. As reported in a previous analysis, shyness was significantly correlated with psychological adaptation.

The main effect of integration versus non-integration was not significant. More specifically, there were no significant differences in psychological adaptation between the integrated and non-integrated group.

Step three, which comprised the interaction, was not significant. More precisely, the interaction between shyness and integration versus non-integration was not significant. This indicated that shyness did not moderate the relationship between acculturation modes and psychological adaptation. Therefore, hypothesis three was not supported for the overall index of adaptation.

As mentioned in the Method section, the measures that made up psychological adaptation were also analyzed separately because psychological adaptation as a single

measure was found to have low reliability.

### *Life Satisfaction*

#### *Residuals Analysis*

From the histogram and normal probability plot, except for a few large residuals, the distribution appeared to be normal. In addition, the Kolmogorov-Smirnov test was not significant ( $p = .49$ ), indicating that the data were normally distributed. From the predictors and residuals plot, the residuals appeared to be not as randomly distributed in some areas but it did not reveal any severe violations of the homoscedasticity assumption (i.e., the spread of the residuals was still fairly constant). The Durbin Watson test (value of 2.15) and scatterplot suggested that the residuals were independent of each other.

#### *Influential Points*

Cook's distance revealed two cases that were somewhat further removed from the rest of the cases although their values were not greater than one. The first case (described in the analysis of psychological adaptation) had a high leverage point of .34 ( $h > 3k/N = h > 3(5)/98 = h > .15$ ) and a large Mahalanobis distance of 32.80 ( $20.52 (\chi^2 (5), p < .001)$ ). This case had a very high score for shyness ( $M = 4.07$ ) and a very low score for life satisfaction ( $M = 1.80$ ). Although the Mahalanobis distance for the second case (17.10) was not larger than the critical value, its leverage point of .18 was higher than the cut-off point. The mean score of shyness for this case ( $M = 1.57$ ) was much lower than the grand mean of shyness ( $M = 2.79$ ) and its score for life satisfaction ( $M = 2.80$ ) was also much lower than the grand mean of life satisfaction ( $M = 4.95$ ).

Since these cases were further removed from the rest of the cases, had high leverage points, and had significant effects on the regression coefficients of the predictor

variables (standardized  $Df\beta > \pm 1$ ), a decision was made to remove them from the analysis.

*Main Analysis: Integration, Shyness, and Life Satisfaction*

The analysis to test this hypothesis was described in the psychological adaptation analysis. However, in this analysis, the questionnaire language version and length of residence, which were correlated with life satisfaction and Canadian orientation, were entered in step one. The results of the analysis are presented in Table 11.

Table 11. *Hierarchical multiple regression analysis predicting life satisfaction from shyness, acculturation modes, and shyness by acculturation interaction*

Variables	$R^2_{\Delta}$	$F_{\Delta}$	df	p	B	SE	sr	pr
1. Step One	.07	3.58	2, 93	.03				
Language version					.02	.02	.08	.08
English proficiency					-.67	.46	-.15	-.15
2. Step 2	.10	5.48	2, 91	.01				
Shyness					-.44*	.17	-.25	-.27
Integration vs. non-integration					-.39	.29	-.13	-.14
3. Step 3	.00	.22	1, 90	.64				
Shyness by integration vs. non-integration					.23	.50	.05	.05

Note. \* $p < .05$

The overall model for this analysis was significant ( $F(5, 90) = 3.77, p = .004$ ), accounting for approximately 17% ( $Adjusted R^2 = .13$ ) of the variance in life satisfaction. As shown in Table 11, step one and step two were significant. In step two, the main effect of shyness was significant. As reported in the previous analysis, shyness was significantly correlated with life satisfaction. The main effect of integration versus non-integration was

not significant. The interaction was also not significant. This implied that shyness did not moderate the relationship between acculturation modes and life satisfaction.

### *Self-Esteem*

#### *Residuals Analysis*

There was no reason to believe that the assumption of normality was violated. In addition, the Kolmogorov-Smirnov test was not significant ( $p = .76$ ), suggesting that the data were normally distributed. There was also no reason to believe that the assumption of homoscedasticity was violated. The Durbin Watson test (value of 2.02) and scatterplot suggested that the residuals were independent of each other.

#### *Influential Points*

Cook's distance revealed a case that was somewhat further removed from the rest of the cases although the value was not greater than one. This case (described in the analysis of psychological adaptation) had a high leverage point of .34 ( $h > 3k/N = h > 3(5)/98 = h > .15$ ) and a large Mahalanobis distance of 32.60 ( $20.52 (\chi^2 (5), p < .001)$ ). This case had a very high score for shyness ( $M = 4.07$ ), as compared to the grand mean of shyness ( $M = 2.79$ ) and a very low score for self-esteem ( $M = 2.00$ ), as compared to the grand mean of self-esteem ( $M = 3.04$ ).

Since this case was further removed from the rest of the cases, had a high leverage point, and had a significant effect on the regression coefficients of the predictor variables (standardized  $Df\beta > \pm 1$ ), a decision was made to remove it from the analysis.

#### *Main Analysis: Integration, Shyness, and Self-Esteem*

The analysis to test this hypothesis was described in the analysis of psychological adaptation. The results are shown in Table 12.



Table 12. *Hierarchical multiple regression analysis predicting self-esteem from shyness, acculturation modes, and shyness by acculturation interaction*

Variables	$R^2_{\Delta}$	$F_{\Delta}$	df	p	B	SE	sr	pr
1. Step One	.15	8.02	2, 94	.001				
Length of residence					.00	.01	.04	.04
English proficiency					-.82*	.28	-.28	-.29
2. Step 2	.32	27.64	2, 92	<.001				
Shyness					-.43**	.06	-.54	-.60
Integration vs. non-integration					-.08	.11	-.05	-.07
3. Step 3	.01	1.35	1, 91	.25				
Shyness by integration vs. non-integration					-.20	.17	-.09	-.12

Note. \* $p < .01$ , \*\* $p < .001$

The overall model for the analysis was significant ( $F(5, 91) = 16.41, p < .001$ ), accounting for approximately 47% ( $Adjusted R^2 = .45$ ) of the variance in self-esteem. As shown in Table 12, step two, which was composed of the main effects, accounted for a large part of the variance. In particular, the main effect of shyness was highly significant. However, the interaction was not significant, which suggested that shyness did not moderate the relationship between acculturation modes and self-esteem.

#### *Low Depression*

#### *Residuals Analysis*

The normal probability plot did not reveal a reasonably good fit to the normal distribution although the Kolmogorov-Smirnov test was not significant ( $p = .25$ ). In terms of homoscedasticity, the scatterplot did not suggest any major problem. The Durbin

Watson test (value of 2.32) and scatterplot suggested that the residuals were independent of each other.

### *Influential Points*

Cook's distance revealed a case that was somewhat further removed from the rest of the cases but the value was not greater than one. Although the Mahalanobis distance for the case (12.15) was not larger than the critical value of 16.27 ( $\chi^2(3)$ ,  $p < .001$ ), its leverage point of .13 was above the cut-off point ( $h > 3k/N = h > 3(3)/98 = h > .09$ ). This case was also a univariate outlier (see p. 47), had a very high score for shyness ( $M = 4.93$ ) and a very low score for low depression ( $M = 1.95$ ).

Although this case was somewhat removed from the rest of the cases and had a leverage point above the cut-off value, removing it from the analysis did not have a significant effect on the regression coefficients of the predictor variables (standardized  $Df\beta < \pm 1$ ). Hence, a decision was made to retain the case.

Because there was a problem with the normality of the residuals distribution, I transformed low depression by reflecting and using a square root transformation (the skewness value was negative). This transformation seemed to improve normality, as evidenced by some improvement to the distribution of the standardized residuals, the normal probability plot, and the result of the Kolmogorov-Smirnov test.

### *Main Analysis: Integration, Shyness, and Low Depression*

As low depression was not related to any of the demographic variables, shyness and the dichotomous variable were entered in step one as predictors, followed by their interaction in step two. The results are presented in Table 13.

Table 13. *Hierarchical multiple regression analysis predicting low depression from shyness, acculturation modes, and shyness by acculturation interaction*

Variables	$R^2_{\Delta}$	$F_{\Delta}$	df	p	B	SE	sr	pr
1. Step 1	.19	10.86	2, 95	<.001				
Shyness					.08*	.02	.42	.42
Integration vs. non-integration					.01	.03	.02	.02
3. Step 2	.01	.68	1, 94	.41				
Shyness by integration vs. non-integration					.04	.05	.08	.09

Note. \* $p < .001$

Low depression was reflected and transformed using a square root transformation.

The overall model for the analysis was significant ( $F(3, 94) = 7.44, p < .001$ ), accounting for approximately 19% ( $Adjusted R^2 = .17$ ) of the variance in low depression. As shown in Table 13, only the main effect of shyness was significant. The interaction was not significant, suggesting that shyness did not moderate the relationship between acculturation modes and low depression.

Shyness was not found to moderate the relationship between acculturation modes and psychological adaptation (using both the overall and individual components of psychological adjustment).

#### Hypothesis Four

##### *Integration, Shyness, and Socio-Cultural Adaptation*

Hypothesis four predicted that participants who were integrated were more likely to have better socio-cultural adaptation than those who were not integrated and I expected that this relation would not vary according to the level of shyness.

#### *Residuals Analysis*

The histogram and normal probability plot were close to normal although there

were a few large residuals. The Kolmogorov-Smirnov test was not significant ( $p = .64$ ), suggesting that the distribution was normal. In terms of homoscedasticity, the residuals were not as randomly distributed on some areas but the plot did not reveal any severe violations (i.e., the spread of the residuals was still fairly constant). The Durbin Watson test (value of 2.13) and scatterplot revealed that the residuals were independent of one another.

### *Influential Points*

Cook's distance did not reveal any influential points with a value greater than one or were further removed from the rest of the cases. However, there was a case (discussed above in the analysis of psychological adaptation) with a high leverage point of .34 ( $h > 3k/N = h > 3(5)/98 = h > .15$ ) and a large Mahalanobis distance of 32.60 (20.52 ( $\chi^2(5)$ ),  $p < .001$ ). However, the case was retained in this analysis because it was not an influential point as revealed by Cook's distance and removing it from the analysis did not have a significant effect on the regression coefficients of the predictor variables (standardized  $Df\beta < \pm 1$ ).

### *Main Analysis: Integration, Shyness, and Socio-Cultural Adaptation*

Similar to hypothesis three, membership in the integration group was assigned a value of "0", while membership in the other three acculturation groups (i.e., assimilation, separation, and marginalization) was assigned a value of "1". Hence, the coefficient is the difference in predicted values for the group coded "1" as compared to the group coded "0".

Length of residence and English proficiency were entered in step one as control

variables because they were significantly correlated with socio-cultural adaptation and Canadian orientation. Shyness and the dichotomous variable (integrated/non-integrated) were entered next, followed by the interaction between shyness and the dichotomous variable. If the interaction entered on the third step was significant, it would indicate that the relationship between integration versus non-integration and socio-cultural adaptation differed by shyness. The results of the analyses are presented in Table 14.

Table 14. *Hierarchical multiple regression analysis predicting socio-cultural adaptation from shyness, acculturation modes, and shyness by acculturation interaction*

Variables	$R^2_{\Delta}$	$F_{\Delta}$	df	p	B	SE	sr	pr
1. Step One	.14	7.87	2, 95	.001				
Length of residence					-.00	.01	-.02	-.02
English proficiency					-.94*	.29	-.31	-.32
2. Step 2	.13	8.49	4, 93	<.001				
Shyness					-.24*	.07	-.31	-.34
Integration vs. non-integration					-.21	.12	-.15	-.18
3. Step 3	.00	.61	1, 92	.70				
Shyness by integration vs. non-integration					-.07	.18	-.04	-.04

Note. \* $p < .01$

The overall model was significant ( $F(5, 92) = 7.01, p < .001$ ), explaining about 28% ( $Adjusted R^2 = .24$ ) of the variability in socio-cultural adaptation. As shown in Table 14, step one was significant. Step two, which was composed of the main effects, was also significant. In particular, the main effect of shyness was significant. The B weight revealed that youth who had higher scores on shyness reported significantly poorer socio-cultural adaptation.

In addition, the expected interaction between shyness and integration versus non-integration was not significant. This implied that shyness did not moderate the relationship between acculturation modes and socio-cultural adaptation.

### Hypothesis Five

#### *Sociability and Integration*

Hypothesis five predicted that Chinese immigrant youth who were integrated would have higher scores on sociability than those who were assimilated, separated, or marginalized. The integration group was used as the reference category for this analysis because it was the group to which the other groups were compared.

#### *Residuals Analysis*

The histogram and normal probability plot suggested that the distribution was normal. The Kolmogorov Smirnov test ( $p = .97$ ) also indicated that the data were normally distributed. The scatterplot of standardized residuals against predicted values did not indicate a problem with the homoscedasticity assumption. The Durbin Watson value of 2.00, together with the scatterplot suggested that the residuals were independent of each other.

#### *Influential Points*

Cook's distance did not reveal any influential points with a value greater than one or were somewhat further removed from the rest of the cases. In addition, there were no cases with Mahalanobis distance larger than the critical value ( $16.27 (\chi^2 (3), p < .001)$ ). There were also no cases with leverage point above the cut-off point ( $h > 3k/N = h > 3(3)/98 = h > .09$ ).

*Main Analysis: Sociability and Integration Mode*

The means and standard deviations of sociability for the four acculturation groups are presented in Table 15.

Table 15. *Means and standard deviations of sociability of the acculturation groups*

Acculturation groups	Mean	SD
Assimilation	3.59	.68
Separation	3.07	.66
Integration	3.61	.81
Marginalization	3.09	.84

Sociability was entered as the criterion variable in the regression. As sociability was not correlated with any of the demographic variables, there was no need to include any of the variables in the model, and the dummy variables were entered simultaneously on the first step as predictors. If the predictors were significant, it would indicate that there were differences in sociability between groups. The results of the analysis were presented in Table 16.

Table 16. *Hierarchical multiple regression analysis predicting sociability from acculturation modes, with integration as reference category*

Variables	$R^2_{\Delta}$	$F_{\Delta}$	df	B	SE	p	sr	pr
Integration vs. assimilation				-.02	.22	.94	-.01	-.01
Integration vs. separation				-.53	.22	.02	-.24	-.24
Integration vs. marginalization	.11	3.98	3,94	-.52	.23	.03	-.22	-.23

Together, the three predictors accounted for approximately 11% (*Adjusted*  $R^2 = 8.4\%$ ) of the total variability in sociability ( $F(3, 94) = 3.98, p = .01$ ). As shown in Table 16, integration versus separation and integration versus marginalization were significant predictors of sociability. More explicitly, there were significant differences in sociability

between the integration and separation group as well as between the integration and marginalization group. There was, however, no significant difference in sociability between the integration and assimilation group. Thus, the prediction that the integration group would have higher scores on sociability than separation and marginalization groups was supported but the assimilation group did not differ from the integration group.

### Hypothesis Six

#### *Integration, Shyness, Sociability, & Psychological Adaptation*

Hypothesis six predicted that the differences in psychological adaptation between high shy, high sociable Chinese immigrant youth and high shy, low sociable Chinese immigrant youth would be greater for the integrated group than the non-integrated group.

As in hypothesis three, membership in the integration group was assigned “0”, while membership in the other three acculturation groups (i.e., assimilation, separation, and marginalization) was assigned “1”. In addition, using the median split approach, 39 (range of 20 to 69) was the cut-off point for shyness, in that participants with scores higher than or equal to 39 were categorized as high shy while those with scores lower than 39 were categorized as low shy (Stritzke, Nguyen, & Durkin, 2004). A similar approach was taken with sociability, with 34 (range of 18 to 50) as the cut-off point, so that participants with scores higher than or equal to 34 were categorized as high social while those with scores lower than 34 were categorized as low social. Subsequently, membership in the high shy, high social group was assigned “0”, while membership in the high shy, low social group was assigned “1”.

This resulted in nine participants being classified as high shy, high social and seven participants being classified as high shy, low social. Unfortunately, out of these 16



participants, only two of them were integrated and both were in the high shy, low social group. Consequently, this distribution did not permit further meaningful comparison and hypothesis six could not be tested.

The means and standard deviations of psychological and socio-cultural adaptation as well as life satisfaction, self-esteem, and low depression for the two shy and social groups are presented in Table 17.

Table 17. *Means and standard deviations of psychological adaptation, socio-cultural adaptation, life satisfaction, self-esteem, and low depression of the shy/social groups*

Variables	High shy, high social <i>n</i> = 9		High shy, low social <i>n</i> = 7	
	Mean	SD	Mean	SD
Psychological	.10	.39	.48	.41
Life satisfaction	5.09	.79	5.40	.64
Self-esteem	2.97	.36	3.37	.53
Low depression	3.41	.18	3.46	.15
Socio-cultural	4.25	.37	4.57	.26

## DISCUSSION

In examining the factors that influence how immigrant youth experience and deal with acculturating between two cultures, it is important to take into consideration personality characteristics. The main objective of the current study was to investigate the relationship between shyness and the acculturation modes of young Chinese immigrants and whether shyness moderated the relationship between acculturation and adaptation. The results of this study suggest that shyness may have important ramifications for the acculturation and adaptation of young Chinese immigrants to a new society.

In the following discussion, the major trends in this study are presented, followed by a more detailed discussion of the relationship between shyness, acculturation, and adaptation of the young Chinese immigrants. Strengths and limitations of the study and implications for research and practice are also presented. General conclusions are also drawn.

### *Major findings*

#### *The relationship between cultural orientation and adaptation*

The first pattern that emerged from this study was the relationship between cultural orientation and the demographic background of young Chinese immigrants. The findings from the current study indicated that being more oriented towards Canadian culture was associated with generation status, higher English language proficiency, and longer length of residence in Canada. This finding was consistent with the study conducted by Kuo and Roysircar (2004), in which they found that age at migration, English language competency, and longer duration of residence in receiving country were strongly related to being more oriented towards the mainstream society. In fact, they

found that all three variables were significant predictors of acculturation in their Chinese Canadian adolescent sample.

This was not surprising because having higher English language proficiency may have allowed these youth to acquire cultural knowledge of the new society, as well as to interact comfortably with members of the mainstream society. More importantly, having a strong command of English may have an impact on the adaptation of immigrants, as evidenced by the significant positive relationship found in this study between English proficiency and psychological (in particular self-esteem) and socio-cultural adaptation. According to Yeh (2003), interacting in a new language can be especially stressful for immigrants and detrimental to their self-esteem. As one Korean immigrant interviewed by Kim and Ryu (2005) related, "Overnight, I became deaf and mute when I came to America" (p. 354).

Longer length of residence in Canada was also found to be related to better psychological (particularly life satisfaction and self-esteem) and socio-cultural adaptation in the present study. Previous researchers also have found length of residence to be associated with more positive psychological and socio-cultural adjustment (Berry et al., 2006; Zlobina, Basabe, Paez, & Furnham, 2006). As Berry et al. (2006) reasoned, with increasing residence, most young immigrants will experience more positive outcomes and avoid the negative ones. However, one other reason might be the implicit association between length of residence and competence in English. In the current study, longer length of residence in Canada was strongly related to higher English proficiency. Longer residence in Canada might have allowed the immigrant youth to acquire higher competence in English and this ability to interact interpersonally in English, in turn,

allowed the youth to have more comfortable interactions and experience fewer cultural conflicts.

In fact, in the present study, when length of residence in Canada and English language proficiency were entered simultaneously into the regression equation in hypothesis three, English proficiency but not length of residence was found to be a significant predictor of psychological adaptation (in particular self-esteem) and socio-cultural adaptation. The study variables described in hypothesis three explained about 38% of the variance in psychological adaptation and about 4% of that variance was uniquely explained by English proficiency. In addition, the study variables accounted for approximately 47% of the variance in self-esteem and about 8% of that variance was uniquely explained by English proficiency. In terms of socio-cultural adaptation described, about 28% of that variance was explained by the study variables (described in hypothesis four) and English proficiency uniquely accounted for about 10% of this variability. These findings supported previous studies (e.g., Nwadiora & McAdoo, 1986; Yeh, 2003; Yeh, Kim, Pituc, & Atkins, 2008), in which English competence was found to be an important indicator of adjustment for immigrant youth.

In terms of generation status, its relationship with both Canadian and Chinese orientation became stronger after assigning participants who arrived in Canada before age 7 years to the second-generation group. This finding suggested that foreign-born immigrants who arrived in the receiving country early in their life may be fairly similar in terms of acculturation to those who were born in the receiving country.

Being more oriented towards the participants' own culture of origin (i.e., Chinese-oriented) was not only associated with generational status, length of residence, and

English proficiency; it was also associated with age. More specifically, the older the immigrants, the less Chinese-oriented they were. This result was not unexpected since age was positively associated with length of residence and longer residence in Canada was related to being more Canadian-oriented. More crucially, the present study revealed that Canadian orientation was related to higher life satisfaction, higher self-esteem, and lower depression. These three measures comprised psychological adaptation in this study. In other words, being more oriented towards Canadian culture was related to better psychological adaptation. In addition, being more oriented towards Canadian culture was associated with better socio-cultural adaptation.

Yeh (2003), in her study of young Asian-American immigrants, found that Asian youth who were more American-identified reported fewer mental health problems than those who were more Asian-identified. She asserted that the more American-oriented immigrants might experience fewer cultural conflicts because of increased language proficiency, thus contributing to better adjustment. As mentioned earlier, in the current study, higher English proficiency was related to better psychological and socio-cultural adaptation. Furthermore, in the present study, I also found a moderate positive relationship between psychological and socio-cultural adaptation. Being fluent in English might allow immigrant youth to obtain culturally appropriate skills to effectively manage their daily life and this, in turn, might lead to better mental well-being. In addition, having better mental well-being might lead to better socio-cultural adjustment.

This study failed to find a relationship between Chinese orientation and psychological and socio-cultural adaptation. The result was fairly consistent with a literature review conducted by Phinney (1990), who found either a positive relationship

or an absence of relationship between ethnic identity and adjustment. However, Rogler, Cortes, and Malgady (1991) reported mixed findings. They found that separation or minimal assimilation was negatively related to positive mental health and well-being but high assimilation was also related to poor adjustment. Possible reasons for these inconsistencies might be the different measures employed to establish cultural orientation, as well as the different sample groups.

### *Shyness, acculturation modes, and adaptation*

The findings from this study suggest that shyness might be a critical indicator of the acculturation and adaptation of not only foreign-born immigrant youth but also those born in the mainstream society. Shyness was found to be related negatively to psychological and socio-cultural adaptation. In fact, results from the analyses indicated that shyness was a strong predictor of psychological adaptation, in other words, life satisfaction, self-esteem, and depression. More specifically, shyness accounted for a large part of the variance in psychological adaptation (in hypothesis three). It explained uniquely about 24% of the variance after controlling for length of residence in Canada and English language proficiency. When the measures making up psychological adaptation were examined separately, shyness accounted for about 6% of the variance in life satisfaction, about 29% of the variance in self-esteem, and almost all of the variance in low depression.

These findings confirmed earlier studies conducted with North American sample, which linked shyness to low self-esteem, depression, and other adjustment problems (Crozier, 1995; Prior et al., 2000; Rubin & Asendorpf, 1993). One possible explanation for this relationship is that shyness tends to be viewed negatively in the North American

context (Rubin et al, 2002) and this puts shy individuals at risk for being neglected or rejected by peers (Rubin & Asendorpf, 1993), which in turn may lead to maladjustment.

As a shy individual described to Lund (2008):

There is a lot of noise. Most of the students are talking, walking around, and chatting with someone else. I'm just sitting there, drawing or just doing nothing. No one asks me if I would like to join them, or asks me questions because they don't care. I just follow them around all the time. I don't think they like me at all. (p. 82)

Lund (2008), in an interview with a group of shy adolescents, found that a common notion among shy individuals was that it was better to avoid someone than to be rejected. Thus, it might be possible that the shy Chinese immigrant youth in the present study were adopting a similar strategy after facing rejection from peers from the mainstream society.

Moreover, several studies have indicated that shyness seemed to be viewed as normative and was associated with peer acceptance in Chinese societies (Chen et al., 1995; Chen, Rubin, & Sun, 1992). This might imply that the shy Chinese immigrant youth were more likely to "stick to" their own ethnic group. This hypothesis was partly supported by the current study, in which immigrant youth who were separated were found to report higher shyness than those who were assimilated or integrated. However, the present study did not find any significant difference in shyness between separated and marginalized immigrant youth. This might imply that shy Chinese immigrant youth were just as likely to be marginalized. One possible explanation was that some shy immigrant youth, after experiencing rejection from peers from the mainstream society, moved away from their own ethnic group as well. It was also likely that they faced rejection from their own ethnic group.

According to Xu et al. (2007), in Chinese societies, the term shyness not only encompasses passive and anxious social restraint but also seems to include a self-controlled form of social restraint that may be motivated by a desire to fit in with others. More specifically, anxious shyness symbolizes a passive form of social restraint, in which a child feels fearful or anxious in social situations, is unable to modulate their negative emotions, and thus avoids social contact. These anxiously shy children, according to Xu et al. (2007), are more likely to experience low social preference (defined as the collective attitude of the peer group toward a particular child) because in Chinese culture in which interpersonal relationships are highly valued, their inability to participate appropriately in group activities may be viewed as an inability to get along with others.

Regulated shyness (Xu et al., 2007), on the other hand, represents a form of self-controlled social restraint characterized by nonassertive and unassuming behaviour, which are highly valued behaviours in Chinese societies. These children have high level of effortful control, in which they are able to modulate their emotional arousal and are thus less likely than the anxiously shy children to display negative emotions. As a result, these regulated shy children are often well liked by their peers and by adults. It is possible that some of the shy Chinese immigrant youth in the present study might have exhibited an anxious form of shyness. Consequently, they not only experienced negative response from the mainstream society but also from their ethnic group. As a result, these anxiously shy youth may have been more likely to be marginalized than those who were regulated shy.

It was also possible that shy youth who were regulated were more likely to be separated than shy youth who were anxious. This assumption, of course, could not be



tested in the present study because the shyness scale employed did not permit such categorization. In addition, I did not find any significant difference in shyness between the integrated and the assimilated youth. Both being integrated and assimilated involved interacting with the mainstream society; therefore it was possible that both integrated and assimilated youth were equally likely to be less shy. Because of the dearth of research on how personality in general, and in particular shyness, may influence acculturation modes, it is difficult to know how best to interpret these findings.

This study attempted to investigate whether integrated and non-integrated Chinese immigrant youth differed in their psychological and socio-cultural adaptation, as well as whether shyness moderated this relationship. In other words, whether integrated youth would be more affected, in terms of their adaptation, by shyness than those who were not integrated. However, due to the rather small number of respondents in the integration mode ( $n = 19$ ), the discussion of the following results should be considered with some care because of its limitation in generalization.

A review of the literature suggests that being integrated affords the best psychological and socio-cultural outcomes for immigrants and sojourners (Dona & Berry, 1994; Kosic et al., 2006; Ward & Kennedy, 1994; Ward & Rana-Deuba, 1999), including immigrant youth (Berry et al., 2006). However, the present study failed to support this finding, in that it did not find any significant difference in psychological and socio-cultural adaptation between Chinese immigrant youth who were integrated and those who were not integrated.

There are several possible explanations for this inconsistency. First, the acculturation difficulties experienced by Chinese immigrant youth in Canada might be

less marked than other ethnic minority groups or the Chinese in other countries, such as Australia (Leung, 2001), because the Chinese has a long presence in Canada and the Chinese community in Ontario is large and established, with well-developed ways of adapting. The 2006 Canada census reported that Chinese is Ontario's second largest visible minority group and most of them live in urban centres, especially Toronto. Consequently, the relationship between acculturation modes and adaptation may not be clear-cut for Chinese immigrant youth in Canada. Furthermore, a relatively large number of participants in the present study are church-affiliated youth and they may more easily obtain social support from the church than youth without church affiliations, which may, in turn, lead to better adaptation.

Second, studies examining immigrants' acculturation and adaptation often employed different measures to assess psychological and socio-cultural adaptation. For example, some studies used just a single measure to assess psychological adaptation (e.g., Farver et al., 2002; Ward & Rana-Deuba, 1999; Ward & Kennedy, 1994) and others (e.g., Berry et al, 2006; Dona & Berry, 1994) used a combination of scales. Even though I used a combination of scales to assess psychological adaptation in the current study and also examined these scales separately, the measures employed still differed slightly from previous studies.

For example, I utilized the Centre for Epidemiologic Studies Depression Scale (CES-D) to measure depression, which assessed the frequency participants felt or behaved in a certain way over the past week, whereas Berry et al. (2006) developed a psychological problems scale assessing depression, anxiety, and psychosomatic symptoms. In terms of socio-cultural adaptation, Berry et al. (2006) assessed this

adaptation using scales for school adjustment and behaviour problems, whereas I utilized a socio-cultural adaptation scale that focused more on the ability to acquire culturally appropriate skills. In addition, I grouped together three acculturation modes (assimilation, separation, and marginalization) into the non-integration group to be compared with the integration group. Therefore, this might have caused the findings of this study to be at variance with what was usually reported in the acculturation literature.

Last, it is crucial to note that the relationships between acculturation modes and adaptation are probabilistic rather than deterministic. That is, the relationships are likely to occur but are not set. Even if there is a relationship between acculturation modes and adaptation, it is likely to depend on a number of moderating factors. For example, with a large Chinese community, social support from the youths' ethnic group is likely to be more readily available and robust. Therefore, if there was a relationship between acculturation modes and adaptation, separated Chinese youth might be as likely as integrated youth to report experiencing positive adaptation. In addition, previous studies have found that marginalized immigrants experienced the worst outcomes because they were neither involved with the mainstream society nor their own ethnic group (Berry et al., 2006; Kosic et al., 2006). It was assumed that they would lack social support and self-definition and this, in turn, would lead to maladjustment (Castro, 2003).

However, in a multicultural society, the immigrant youth tend to have more choices in how they wish to participate in the broader society. In fact, the 2006 Canada census enumerated more than 200 different ethnic origins and Ontario is home to more than half of Canada's visible minority population. Therefore, it is possible that marginalized Chinese youth might have sought social support from other ethnic groups,

such as other Asian groups. For example, a youth from the current study commented, “My best friends are all Canadian-born Vietnamese...I often don’t find that I belong to any of the two cultures [i.e., Chinese and mainstream culture]. I feel I am stuck in between.” Subsequently, even if there were differences in adaptation between marginalized youth and those who were not marginalized, the disparity might not be that large. In this case, social support from other ethnic groups might serve to moderate the relationship between marginalization mode and adaptation.

In fact, strong social support may be a vital factor in determining adaptation. Oppedal et al. (2004), in their study of immigrant youth from various ethnic groups in Norway, found that even though Somali youth reported the highest perceived discrimination and identity crisis, they also reported having fewer psychiatric problems than other ethnic groups. Researchers have consistently identified racism and discrimination as harmful to the well-being of immigrant youth (Jasinskaja-Lahti et al., 2006). Therefore, the high ranking of perceived discrimination, coupled with a high level of identity crisis, should have predicted more psychological problems for the Somali youth than was observed. Oppedal et al. (2004), thus, speculated that what made the Somali youth resilient to poor adaptation may be attributed in part to their strong social support.

Furthermore, Canada is a pluralistic society with a multicultural ideology that is more likely to encourage cultural diversity than monistic societies. Consequently, peers from mainstream society are likely to be more accepting of diverse cultures. As a result, assimilated Chinese youth in Canada might be less pressured to completely abandon their ethnic background. Even if they did not get much support from their own ethnic group,

they may have been equally likely to enjoy more positive than negative adaptation. In other words, the nature of the receiving country may moderate the relationship between acculturation modes and adaptation.

As mentioned, I attempted to examine if shyness moderated the relationship between acculturation modes and adaptation. The results indicated that shyness did not have a significantly different effect for integrated Chinese youth and non-integrated Chinese youth in either their socio-cultural or psychological adaptation. Instead, as previously stated, results suggested that there were no significant differences in adaptation between the integrated and non-integrated groups and shyness itself was related to the immigrant youths' psychological and socio-cultural adaptation. This implied that shyness might have had an influence on the Chinese immigrant youths' adaptation, regardless of their acculturation modes. It is possible that living in a North American context in which shyness is viewed rather negatively influenced the adaptation of the Chinese immigrant youth.

As Xu et al. (2007) asserted, even in a Chinese context, certain types of shyness (e.g., anxious shyness) were not well-regarded. This assumption was supported by recent studies (Chen, Cen, Li, & He, 2005; Schwartz, Chang, & Farver, 2001; Hart et al., 2000), which found that anxious/reticent types of shyness in children were associated with less peer acceptance in Chinese societies. In fact, in recent years, there has been a shift in the social and cultural norms in Chinese societies, in which shyness-sensitivity has become increasingly associated with social and psychological difficulties in Chinese children. For example, Chen et al. (2005) examined three cohorts (1990, 1998, 2002) of Chinese elementary school children and found that while shyness was positively related to peer

acceptance and teacher-rated competence in the 1990 cohort, the relationships became weaker or non-significant in the 1998 cohort. Additionally, shyness-sensitivity was positively associated with peer rejection and self-reported depression, and negatively associated with teacher-rated school competence in the 2002 cohort. Consequently, it is possible that even the shy Chinese youth who had less contact with the mainstream society (e.g., separated youth) may have experienced negative responses from their own ethnic group.

*Shyness, sociability, acculturation modes, and adaptation*

In the present study, I also endeavoured to examine if shyness, in conjunction with sociability, moderated the relationship between acculturation and psychological adaptation. In particular, I predicted that the dissimilarity in psychological adaptation between high shy, high sociable Chinese immigrant youth and high shy, low sociable Chinese immigrant youth would be greater for integrated group than non-integrated group. I focused on the high shy, high sociable youth because these youth, although shy, have a strong motivation to affiliate with others. This dissonance has often been linked to poor adjustment, such as loneliness (Jones, Rose, & Russell, 1990) and drug and alcohol abuse (Bruch, Rivet, Heimberg, & Levin, 1997; Santesso et al., 2004).

The results of the current study indicated that Chinese immigrant youth who were integrated reported higher sociability than those who were separated or marginalized. However, they did not score significantly higher sociability than the assimilated youth. Regrettably, only nine youth met the criteria for the high shy, high social group and seven youth for the high shy, low social group. In addition, only two out of these 16 youth were in the integrated group and both were in the high shy, low social group. Accordingly, this

distribution did not allow further meaningful comparison and the hypothesis could not be tested. It was interesting to note that no youth from the integrated group fit the profile of being high shy and high sociable. This might indicate that Chinese immigrant youth who were highly shy and highly sociable may not take the integrated path.

Since only a few participants fit the profiles of high shy, high social group and high shy, low social group, it was highly unlikely to obtain any significant differences in their adaptation. In addition, the unexpectedly high negative correlation between shyness and sociability found in the present study ( $r = -.82$ ) suggests multicollinearity between these two measures. Upon closer examination of the two measures, there are some similarities in a few questions.

For example, in the shyness scale, the question *"I am often uncomfortable at parties and other social functions"* may correspond with *"Often feel uncomfortable around others"* in the sociability scale. In addition, *"I have no doubts about my social competence"* in the shyness scale may correspond with *"Am skilled in handling social situations"* in the sociability scale. Compared to the Cheek and Buss Sociability scale (Cheek & Buss, 1981), the overlapping between shyness and sociability is less pronounced. For instance, the questions on sociability centred on the preference to be around people, such as *"I like to be with people"* and *"I find people more stimulating than anything else"*.

However, this result was based only on the zero-order correlations, which may be inadequate to assess collinearity. One procedure to diagnose collinearity is to examine the tolerance level in the multiple regression analysis (Pedhazur, 1997). When tolerance is close to zero, there is high multicollinearity of that variable with other independent

variables; the B and beta coefficients will be unstable; and the standard error of the regression coefficients will be higher (Quantitative Research in Public Administration: Multiple Regression, n.d.). When I ran a regression analysis by entering shyness and sociability simultaneously in the equation, the results revealed quite low tolerance (about .33 for both shyness and sociability), which signified high collinearity. However, there was also some variance that was not shared. In any case, the last hypothesis, which included shyness and sociability as predictors, could not be tested.

### *Limitations and future research*

The current study has several limitations. Therefore, the results should be interpreted with some caution. Potential future research is also suggested.

### *Generalization*

The sample size was relatively small and limited to participants of Chinese origin. Hence, the results may not generalize to other ethnic groups or even to all Chinese individuals. The ethnic groups investigated in any study are determined in part by researcher's interests, availability of bilingual researchers, and other resources available. Future research should attempt to include and compare across different ethnic backgrounds (e.g., other Asian groups). For example, Yeh (2003) found that Korean immigrant youth were more likely to experience cultural adjustment difficulties than Japanese and Chinese immigrant youth and thus investigations could be done to better understand why Korean immigrant youth may be more at risk for adjustment difficulties.

In addition, acculturation and adaptation are likely to vary across generations. Immigrant youth from different generations might face some dissimilar challenges, which might ultimately influence their cultural orientations and adjustment. For instance,



Padilla, Wagatsuma, & Lindholm (1985) in their study of first-, second-, and third-/later generation Japanese immigrant youth, found that although the second-generation youth reported less stress than the first-generation youth, they still scored higher on stress level than the third generation youth. They reasoned that the greater stress experienced by the second-generation youth might be because they were undergoing a transition from traditional values held by their parents to those held by third/later generation individuals. Therefore, future research could be conducted with larger samples across different generations. However, in the present study, generation status did not correlate with adaptation.

The findings from this study also could be a reflection of the location where the data were collected. The majority of the participants were from Toronto, which has a large Chinese community. As noted above, social support from the participants' cultural group is likely to be more readily available. Moreover, Toronto is a multi-cultural urban environment, which allows individuals to have a range of choices as to how they wish to participate in the wider society. Therefore, additional research could investigate samples from suburban and rural areas, as well as cities across Canada. For example, immigrant youth residing in more remote areas might lack the support of an easily accessible ethnic community and this might, in turn, influence their adjustment. It also should be noted that the data were not analyzed to examine if there were any significant differences according to the sites where data were collected because I did not keep track of where each participant was recruited. Hence, it was not known if the differences were due to the specific sites. Moreover, as mentioned, many participants (about 70%) from this study

were recruited from Chinese churches, so the sample might be a more homogenous group and not representative of non-Church affiliated individuals.

### *Methodological considerations*

A major limitation with the current study is the classification of the acculturation modes. The mid-point technique recommended by Dona and Berry (1994) resulted in the majority of participants being classified as integrated, with only some classified as assimilated, and very few classified as separated or marginalized. Thus, a median split technique recommended by Ward and Rana-Deuba (1999) for within-group sample was employed instead because it enabled a large enough sample in each group for meaningful comparisons. However, there are problems with this approach.

First, it might be argued that the assignment of respondents into the four groups based on the median split technique does not represent a “pure” measurement of assimilation, separation, integration, and marginalization. As Dona and Berry (1994) reasoned, a median split would force the respondents into one of the four categories independent of where they scored on the five-point scale. They added that such an approach could provide a distorted image of where the respondents stand with regard to their acculturation mode. Indeed, had the mid-point split been used in this study, the large majority of the respondents would have fallen into the integration category, which was consistent with the literature that the integration mode was preferred by most immigrant youth.

Ideally, a cultural group will exhibit a full range of acculturation scales scores so that a midpoint split technique could be used to categorize respondents into the four acculturation modes. However, it would be simplistic to assume that a full range of

acculturation modes would be exhibited. The midpoint split technique tends to overlook the nature of the sample as well as response tendencies, in which many respondents have a tendency to agree with both the scales assessing attitudes towards the native culture and the mainstream culture. Table 18 shows a summary of results from studies that employed the midpoint split technique.

Table 18. *Acculturation modes classified with midpoint split approach*

Study	Sample population	<i>n</i>	A	S	I	M
Dona & Berry, 1994	Central American refugees	101	4	17	72	0
Ward & Rana-Deuba, 1999	International aid workers in Nepal	104	1	83	7	13
Current study	Young Chinese immigrants in Canada	98	26	5	66	1

*Note:* *n* = Total number of participants; A = Assimilation group; S = Separation group; I = Integration group; M = Marginalization group

Ward and Rana-Deuba (1999) stated that the median-split technique has more limitations for cross-sample comparisons, as it is an approach that relies on a relative within-sample comparison. Hence, the limitations to using a median split technique might be minimized for the current study, as the comparisons were made within an ethnic group rather than across different ethnic groups.

Subsequently, it might be argued that both mid-point and median split techniques can be useful in acculturation research and selection of the most appropriate method may be influenced by sample-specific characteristics. This issue of classification of acculturation modes should be explored further in future studies. For example, future research could investigate further the validity of these two classification techniques or attempt to improve the conceptual and methodological limitations of the classifications of acculturation modes by adopting other statistical approaches.

### *Acculturation as a developmental process*

The current study measured acculturation at only one point in time. As Oppedal et al. (2004) suggested, acculturation should be viewed as a contextual lifespan development process. Individuals' preferred acculturation mode is likely to change over time as a function of maturation as well as experience with the mainstream society. For example, as the young immigrants progress through adulthood, they might develop a growing interest in their culture of origin as a result of a greater capacity for self-reflection or upon big events, such as the birth of a child. Therefore, to investigate effectively acculturation as a developmental process, a longitudinal study with several waves of data collection should be attempted, especially for young immigrants.

Future research could follow a group of adolescents across time to assess intra-individual change during adolescence and into adulthood. In addition, a qualitative component may be added to afford more in-depth understanding of the evolving cultural orientation across life domains. A more in-depth investigation of immigrant youths' experiences might assist in clarifying the nature of various factors (e.g., discrimination, identity development) and their impact on the cultural adjustment process. A qualitative element could also investigate any critical point that occurs in the immigrant youths' lives that fundamentally shifts their cultural orientation.

### *Behavioural and psychological acculturation*

The findings from the current study were limited in that it measured primarily the external aspects of acculturation but did not measure the internal aspects. Although the acculturation scale employed did include some affective measures through the assessment of both positive and negative perceptions of ethnicity, values per se were not directly

assessed. The acculturation process involves changes in both behaviours and values (Kim, Atkinson, & Yang, 1999). The behavioural dimension of acculturation involves more observable, overt aspects of cultural practices (e.g., language spoken, celebrating one's national holidays), whereas the psychological dimension of acculturation involves a more covert component that focused on cultural values, ideologies, attitudes, and beliefs (Marino, Stuart & Minas, 2000).

Several researchers (Chang, Tracey, & Moore, 2005; Marino, Stuart & Minas, 2000; Shim & Schwartz, 2007) have concurred that adopting the overt aspects of a particular culture (behavioural acculturation) does not necessarily reflect the extent to which a person has adopted that particular culture's norms and values (psychological acculturation). Chang et al. (2005), in their examination of three separate Asian groups in the United States, found that participants manifested clear differences in the degree to which they changed their "overt behaviours" and their "covert values" over time. Therefore, it seems appropriate that in future studies, researchers should attempt to measure acculturation along these two dimensions, as it would provide more insight into the content and process of acculturation, especially if the value-differences between the culture of origin and mainstream culture are vast.

### *Strengths of study*

Despite the aforementioned limitations, the present study not only contributed to the limited research that focused on young Chinese immigrants but also made a significant contribution to the acculturation literature by attempting to bring another perspective to the literature by examining the relationship between shyness and acculturation and the effect of shyness on adaptation. On one hand, personality is a vital

area to investigate because of cultural differences in defining what is “acceptable” or “normal” and what is ‘unacceptable’ or “abnormal” in social behaviour. This difference may affect the acculturation and adaptation of immigrants. On the other hand, it is also crucial to examine acculturation in a wider context, by embedding individual factors (e.g., attitudes toward one’s ethnic group) within contextual factors – whether those of proximal settings (e.g., parents, peers) or more distal settings (e.g., legal or policy factors). Taking into account both individual and contextual factors will assist researchers to identify potential mediators and moderators that may facilitate or encumber the acculturation process.

### *Implications*

Social-service workers, educators, and counsellors working with young immigrants may benefit from recognizing, understanding, and appreciating cultural differences in defining personality and social behaviour (e.g., shyness), and how that may influence the acculturation and adaptation of young immigrants to the mainstream society. Subsequently, it will be possible to communicate this awareness to shy immigrant youth and to develop effective strategies and skills to help them handle social situations in the mainstream society.

In addition, although previous studies have suggested that integration seemed to be the most effective acculturation mode for psychological and socio-cultural adaptation, practitioners should be aware that this relationship is not fixed. Several other factors must be taken into consideration, such as personality characteristics and nature of the receiving country and acculturating group. In addition, certain factors may influence the adaptation of the immigrant youth, regardless of how they acculturate to the mainstream society. As

the present study revealed, shyness may influence the adaptation of the immigrant youth, no matter what their acculturation mode.

Furthermore, as the current and other studies (Kuo & Roysircar, 2004; Yeh & Inose, 2002) discovered, Chinese immigrant youth with lower English proficiency are at greater risk of having poorer psychological well-being. Communication difficulties can be a major challenge and can hinder their cultural adjustment. Therefore, practitioners working with this population could implement more creative activities, such as social activities with bilingual peer support, to overcome these barriers.

### *General Conclusions*

In this study, I endeavoured to examine the relationship between shyness and acculturation modes of young Chinese immigrants in Canada, as well as whether shyness moderated the relationship between acculturation and adaptation. The findings suggest that shyness may be related to how Chinese immigrant youth acculturate in Canada. As expected, the youth who were separated reported higher shyness than those who were integrated or assimilated. This is a valuable finding, in that shyness may prevent the youth from learning more about the mainstream society. Previous studies (e.g., Berry et al., 2006; Kosic et al., 2006) have found that, for adult and young immigrants alike, while it is important to maintain a sense of identity with the culture of origin, it is just as important to foster good intergroup relations with the mainstream society, as this combination may promote the best adaptation.

At the same time, how Chinese immigrant youth acculturate in the receiving country may not be the crucial factor in determining their adaptation. Instead, other factors might play a more crucial role. For example, the results of this study suggest that

shyness may have important pervasive implication for the adaptation of young Chinese immigrants. Shyness in this study did not moderate the relationship between acculturation and adaptation. Nonetheless, it is still vital for future studies to incorporate individual characteristics and contextual factors into the design model, so as to identify potential mediators and moderators.

There were several issues that the present study could not examine, which future researchers could follow up: (1) recruit more participants to increase the possibility of getting more individuals who fit the profile of high shy, high social and high shy, low social. Subsequently, analyses could be conducted to examine if shyness, in combination with sociability, moderates the relationship between acculturation and adaptation; (2) examine if shyness influences the acculturation modes of Chinese immigrant youth by employing a scale that assesses anxious shy and regulated shy; and (3) use an acculturation scale that permits the calculation of individual scores for each of the four modes, in order to investigate the relationship between the four acculturation modes and shyness, as well as between the acculturation modes and psychological and socio-cultural adaptation.



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## Appendix A

## Brock University Ethics Clearance

DATE: December 3, 2007

FROM: Michelle McGinn, Chair  
Research Ethics Board (REB)

TO: Linda Rose-Krasnor, Psychology  
Felicia Chui Choo Tan

FILE: 07-115 ROSE-KRASNOR

TITLE: Living Between Two Cultures: Personality and Adaptation in Chinese Immigrant Youth

The Brock University Research Ethics Board has reviewed the above research proposal.

**DECISION:** Accepted as is

This project has received ethics clearance for the period of December 3, 2007 to April 30, 2007 subject to full REB ratification at the Research Ethics Board's next scheduled meeting. The clearance period may be extended upon request. *The study may now proceed.*

Please note that the Research Ethics Board (REB) requires that you adhere to the protocol as last reviewed and cleared by the REB. During the course of research no deviations from, or changes to, the protocol, recruitment, or consent form may be initiated without prior written clearance from the REB. The Board must provide clearance for any modifications before they can be implemented. If you wish to modify your research project, please refer to <http://www.brocku.ca/researchservices/forms> to complete the appropriate form Revision or Modification to an Ongoing Application.

Adverse or unexpected events must be reported to the REB as soon as possible with an indication of how these events affect, in the view of the Principal Investigator, the safety of the participants and the continuation of the protocol.

If research participants are in the care of a health facility, at a school, or other institution or community organization, it is the responsibility of the Principal Investigator to ensure that the ethical guidelines and clearance of those facilities or institutions are obtained and filed with the REB prior to the initiation of any research protocols.

The Tri-Council Policy Statement requires that ongoing research be monitored. A Final Report is required for all projects upon completion of the project. Researchers with projects lasting more than one year are required to submit a Continuing Review Report annually. The Office of Research Services will contact you when this form *Continuing*

*Review/Final Report* is required.

Please quote your REB file number on all future correspondence.

MM/bb

Brock University  
Office of Research Services  
500 Glenridge Avenue  
St. Catharines, Ontario, Canada L2S 3A1  
phone: (905)688-5550, ext. 3035 fax: (905)688-0748  
email: reb@brocku.ca  
<http://www.brocku.ca/researchservices/ethics/humanethics/>

#### Brock University Ethics Modification Approval

FROM: Michelle McGinn, Chair  
Research Ethics Board (REB)

TO: Linda Rose-Krasnor, Psychology  
Felicia Chui Choo Tan

FILE: 07-115 - ROSE-KRASNOR

DATE: April 3, 2008

END DATE: April 30, 2008

The Brock University Research Ethics Board has reviewed the research proposal:

#### ***Living Between Two Cultures: Personality and Adaptation in Chinese Immigrant Youth***

The Research Ethics Board finds that your ***modification request*** to an ongoing project involving human participants conforms to the Brock University guidelines set out for ethical research.

MM/kw

Kate Williams  
Research Ethics Assistant  
Office of Research Ethics, MCD250A  
Brock University  
Office of Research Services  
500 Glenridge Avenue

St. Catharines, Ontario, Canada L2S 3A1  
 phone: (905)688-5550, ext. 3035 fax: (905)688-0748  
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<http://www.brocku.ca/researchservices/ethics/humanethics/>

### Ethics Modification Approval

FROM: Michelle McGinn, Chair  
 Research Ethics Board (REB)

TO: Linda Rose-Krasnor, Psychology  
 Felicia Chui Choo Tan

FILE: 07-115 - ROSE-KRASNOR

DATE: July 23, 2008

END DATE: December 31, 2008

The Brock University Research Ethics Board has reviewed the research proposal:

***Living Between Two Cultures: Personality and Adaptation in Chinese Immigrant Youth***

The Research Ethics Board finds that your *modification request* to an ongoing project involving human participants conforms to the Brock University guidelines set out for ethical research.

MM/law

Lori Walker  
 Senior Research Ethics Officer  
 Brock University, Office of Research Services  
 500 Glenridge Ave, St. Catharines, ON L2S 3A1  
 phone: (905) 688-5550 x4876  
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**Confidentiality Notice:** This e-mail, including any attachments, may contain confidential or privileged information. If you are not the intended recipient, please notify the sender by e-mail and immediately delete this message and its contents. Thank you.

## Appendix B

**ABOUT YOU AND YOUR FAMILY**

**INSTRUCTIONS: Where appropriate, please fill in the blank or check the box.**

1. Your gender:

☐ Male

☐ Female

2. Your age:

I am \_\_\_\_\_ years old.

3. Country you are born in:

\_\_\_\_\_

4. City you are currently residing:

I am currently living in \_\_\_\_\_.

5. Postal Code of your current residence \_\_\_\_\_.

6. The neighbourhood that you are currently living at consists of mainly (Please check only one):

☐ Chinese

☐ Caucasian

☐ Other ethnic group (If so, which ethnicity? \_\_\_\_\_)

☐ Mixed ethnicities

7. Number of years you have lived in Canada:

I have lived in Canada for \_\_\_\_\_ year/years.

8. Highest education obtained:

☐ Elementary school

☐ Some high school

☐ Completed high school

☐ Community college

☐ Some university

☐ Completed university

☐ Master degree or above

## 9. Father's highest education level:

- ☐ Elementary school  
☐ Some high school  
☐ Completed high school  
☐ Community college  
☐ Some university  
☐ Completed university  
☐ Master degree or above

## 10. Mother's highest education level:

- ☐ Elementary school  
☐ Some high school  
☐ Completed high school  
☐ Community college  
☐ Some university  
☐ Completed university  
☐ Master degree or above

11. English proficiency: Using the 1 - 5 scale below, please indicate the level of difficulty you have in speaking, reading, writing, and understanding English by placing the appropriate number on the line next to each item.

Extreme difficulty	Great difficulty	Moderate difficulty	Slight difficulty	No difficulty
1	2	3	4	5

1. Speaking English \_\_\_\_\_

2. Reading English \_\_\_\_\_

3. Writing English \_\_\_\_\_

4. Understanding what people are saying in English \_\_\_\_\_

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# ABOUT YOUR ACTIVITIES

**A. INSTRUCTIONS:** Using the scale of 1 - 7 below, please indicate in the past year, how often have you done the following activities by placing the appropriate number on the line next to each item.

Not at all	Once	A few times a year	Every couple months	About once a month	Several times a month	Several times a week
1	2	3	4	5	6	7

- Organized sports (e.g., intramural volleyball). \_\_\_\_\_
- Informal physical activities (for example, working out on your own). \_\_\_\_\_
- Volunteering or community service. \_\_\_\_\_
- School clubs. \_\_\_\_\_
- Community groups (e.g., ethnic clubs). \_\_\_\_\_
- Music, art, dance lessons or groups (for example, band). \_\_\_\_\_
- Video/computer games. \_\_\_\_\_
- Religious groups. \_\_\_\_\_
- Hanging out with friends. \_\_\_\_\_
- Special events (for example, conferences, workshops, retreats). \_\_\_\_\_
- Political or community action (for example, political party, protests or petitions). \_\_\_\_\_

**B. INSTRUCTIONS:** If you have participated in any of the following activities, please tell us the length of time you have done the activity by writing down the number of years on the line next to each item.

- Organized sports (e.g., intramural volleyball). \_\_\_\_\_
- Informal physical activities (for example, working out on your own). \_\_\_\_\_
- Volunteering or community service. \_\_\_\_\_
- School clubs. \_\_\_\_\_

5. Community groups (e.g., ethnic clubs). \_\_\_\_\_
6. Music, art, dance lessons or groups (for example, band). \_\_\_\_\_
7. Video/computer games. \_\_\_\_\_
8. Religious groups. \_\_\_\_\_
9. Hanging out with friends. \_\_\_\_\_
10. Political or community action (for example, political party, protests or petitions).  
\_\_\_\_\_

**C. Using the scale of 1 - 5 below, please rate each type of activity for the characteristics below by placing the appropriate number on the line next to each item. If you have not participated, just leave the line blank.**

Not at all	A little bit	Moderately	A lot	Completely
1	2	3	4	5

Activity	How much fun is this activity?	How stressful is this activity?	How good are you at this activity?	How meaningful is the activity to you?	How hard would this activity be to give up?	How interesting is this activity?
Organized sports						
Informal physical activities						
Volunteering, community service						
School clubs						
Community groups						
Music, art, dance, etc.						
Video/computer games						
Religious groups						
Hanging out						

with friends						
Political or community action						

### ACCULTURATION

**INSTRUCTIONS:** Below are a number of questions that ask about your language use and daily customs/habits. Please read each question carefully and think about how well it describes your daily language use and behaviours. Fill in the blank next to each item by choosing a number from the 1 – 5 scale printed below

Not at all	Very little or not very often	Moderately	Much or very often	Extremely often or almost always
1	2	3	4	5

1. I speak Chinese. \_\_\_\_\_
2. I speak English. \_\_\_\_\_
3. I enjoy speaking Chinese. \_\_\_\_\_
4. I enjoy speaking English. \_\_\_\_\_
5. I associate with Anglo-Canadians. \_\_\_\_\_
6. I associate with Chinese people. \_\_\_\_\_
7. I enjoy listening to Chinese language music. \_\_\_\_\_
8. I enjoy listening to English language music. \_\_\_\_\_
9. I enjoy Chinese language TV. \_\_\_\_\_
10. I enjoy English language TV. \_\_\_\_\_
11. I enjoy English language movies. \_\_\_\_\_
12. I enjoy Chinese language movies. \_\_\_\_\_
13. I enjoy reading (e.g., books in Chinese). \_\_\_\_\_
14. I enjoy reading (e.g., books in English). \_\_\_\_\_



Not at all	Very little or not very often	Moderately	Much or very often	Extremely often or almost always
1	2	3	4	5

15. I write (e.g., letters in Chinese). \_\_\_\_\_
16. I write (e.g., letters in English). \_\_\_\_\_
17. My thinking is done in the English language. \_\_\_\_\_
18. My thinking is done in the Chinese language. \_\_\_\_\_
19. My contact with the Chinese people has been \_\_\_\_\_
20. My contact with the Anglo-Canadians has been \_\_\_\_\_
21. My father identifies or identified himself as a "Chinese". \_\_\_\_\_
22. My mother identifies or identified herself as a "Chinese". \_\_\_\_\_
23. My friends, while I was growing up were of Chinese origin. \_\_\_\_\_
24. My friends, while I was growing up were of Anglo-Canadian origin. \_\_\_\_\_
25. My family cooks Chinese food. \_\_\_\_\_
26. My friends now are of Anglo-Canadian origin. \_\_\_\_\_
27. My friends now are of Chinese origin. \_\_\_\_\_
28. I like to identify myself as a "Chinese". \_\_\_\_\_
29. I like to identify myself as a Canadian. \_\_\_\_\_
30. I have difficulty accepting ideas held by Anglo-Canadians. \_\_\_\_\_
31. I have difficulty accepting certain attitudes held by Anglo-Canadians. \_\_\_\_\_
32. I have difficulty accepting some behaviours exhibited by Anglo-Canadians. \_\_\_\_\_
33. I have difficulty accepting some values held by Anglo-Canadians. \_\_\_\_\_
34. I have difficulty accepting certain practices and customs commonly found in Anglo-Canadians. \_\_\_\_\_

Not at all	Very little or not very often	Moderately	Much or very often	Extremely often or almost always
1	2	3	4	5

35. I have, or think I would have, difficulty accepting Anglo-Canadians as close personal friends. \_\_\_\_\_
36. I have difficulty accepting ideas held by Chinese people. \_\_\_\_\_
37. I have difficulty accepting certain attitudes held by Chinese people. \_\_\_\_\_
38. I have difficulty accepting some behaviours exhibited by Chinese people. \_\_\_\_\_
39. I have difficulty accepting some values held by Chinese people. \_\_\_\_\_
40. I have difficulty accepting certain practices and customs commonly found in Chinese culture. \_\_\_\_\_
41. I have, or think I would have, difficulty accepting Chinese people as close personal friends. \_\_\_\_\_

### HOW SHY ARE YOU

**INSTRUCTIONS:** Please read each item carefully and decide to what extent it is characteristic of your feelings and behaviour. Fill in the blank next to each item by choosing a number from the 1 – 5 scale printed below.

Very uncharacteristic or untrue, strongly disagree	Uncharacteristic	Neutral	Characteristic	Very characteristic or true, strongly agree
1	2	3	4	5

1. I feel tense when I'm with people I don't know well. \_\_\_\_\_
2. I am socially somewhat awkward. \_\_\_\_\_
3. I do not find it difficult to ask other people for information. \_\_\_\_\_
4. I am often uncomfortable at parties and other social functions. \_\_\_\_\_
5. When in a group of people, I have trouble thinking of the right things to talk about. \_\_\_\_\_

Very uncharacteristic or untrue, strongly disagree	Uncharacteristic	Neutral	Characteristic	Very characteristic or true, strongly agree
1	2	3	4	5

6. It does not take me long to overcome my shyness in new situations. \_\_\_\_\_
7. It is hard for me to act natural when I am meeting new people. \_\_\_\_\_
8. I feel nervous when speaking to someone in authority. \_\_\_\_\_
9. I have no doubts about my social competence. \_\_\_\_\_
10. I have trouble looking someone right in the eye. \_\_\_\_\_
11. I feel inhibited in social situations. \_\_\_\_\_
12. I do not find it hard to talk to strangers. \_\_\_\_\_
13. I am more shy with members of the opposite sex. \_\_\_\_\_
14. During conversations with new acquaintances, I worry about saying something foolish. \_\_\_\_\_

### HOW DO YOU FEEL ABOUT YOUR LIFE

**INSTRUCTIONS:** Below are five statements that you may agree or disagree with. Using the scale of 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line next to each item. Please be open and honest in your responding.

Strongly agree	Agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Disagree	Strongly disagree
1	2	3	4	5	6	7

1. In most ways my life is close to my ideal. \_\_\_\_\_
2. The conditions of my life are excellent. \_\_\_\_\_
3. I am satisfied with my life. \_\_\_\_\_

<b>Strongly agree</b>	<b>Agree</b>	<b>Slightly agree</b>	<b>Neither agree nor disagree</b>	<b>Slightly disagree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>

4. So far I have gotten the important things I want in life. \_\_\_\_\_

5. If I could live my life over, I would change almost nothing. \_\_\_\_\_

### **EXPERIENCES AND ADJUSTMENT IN CANADA**

**INSTRUCTIONS:** Using the 1 - 5 scale below, please indicate how much difficulty you experience in Canada in each of these areas by placing the appropriate number on the line next to each item.

<b>No difficulty</b>	<b>Slight difficulty</b>	<b>Moderate difficulty</b>	<b>Great difficulty</b>	<b>Extreme difficulty</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

1. Making friends. \_\_\_\_\_

2. Finding food that you enjoy. \_\_\_\_\_

3. Following rules and regulations. \_\_\_\_\_

4. Dealing with people in authority. \_\_\_\_\_

5. Taking a Canadian perspective on the culture. \_\_\_\_\_

6. Using the transport system. \_\_\_\_\_

7. Dealing with bureaucracy. \_\_\_\_\_

8. Understanding the Canadian value system. \_\_\_\_\_

9. Making yourself understood. \_\_\_\_\_

10. Seeing things from a Canadian's point of view. \_\_\_\_\_

11. Going shopping. \_\_\_\_\_

12. Dealing with someone who is unpleasant. \_\_\_\_\_

13. Understanding jokes and humor. \_\_\_\_\_

No difficulty	Slight difficulty	Moderate difficulty	Great difficulty	Extreme difficulty
1	2	3	4	5

14. Accommodation. \_\_\_\_\_
  15. Going to social gatherings. \_\_\_\_\_
  16. Dealing with people staring at you. \_\_\_\_\_
  17. Communicating with people of a different ethnic group. \_\_\_\_\_
  18. Understanding ethnic or cultural differences. \_\_\_\_\_
  19. Dealing with unsatisfactory service. \_\_\_\_\_
  20. Worshipping. \_\_\_\_\_
  21. Relating to members of the opposite sex. \_\_\_\_\_
  22. Finding your way around. \_\_\_\_\_
  23. Understanding Canadian's political system. \_\_\_\_\_
  24. Talking about yourself with others. \_\_\_\_\_
  25. Dealing with the climate. \_\_\_\_\_
  26. Understanding the Canadian's worldview. \_\_\_\_\_
  27. Family relationships. \_\_\_\_\_
  28. The pace of life. \_\_\_\_\_
  29. Being able to see two sides of an inter-cultural issue. \_\_\_\_\_
-

### HOW SOCIABLE ARE YOU

**INSTRUCTIONS:** Please use the 1 – 5 rating scale below to describe how accurately each statement describes *you*. Fill in the blank next to each item by choosing the appropriate number.

Very inaccurate	Moderately inaccurate	Neither inaccurate nor accurate	Moderately accurate	Very accurate
1	2	3	4	5

1. Feel comfortable around people. \_\_\_\_\_
2. Act comfortably with others. \_\_\_\_\_
3. Am skilled in handling social situations. \_\_\_\_\_
4. Talk to a lot of different people at parties. \_\_\_\_\_
5. Start conversations. \_\_\_\_\_
6. Often feel uncomfortable around others. \_\_\_\_\_
7. Have little to say. \_\_\_\_\_
8. Find it difficult to approach others. \_\_\_\_\_
9. Have difficulty expressing my feelings. \_\_\_\_\_
10. Only feel comfortable with friends. \_\_\_\_\_

### HOW DO YOU FEEL ABOUT YOURSELF

**INSTRUCTIONS:** Below is a list of statements dealing with your general feelings about yourself. Using the scale of 1 - 4 below, indicate your agreement with each item by placing the appropriate number on the line next to each item.

Strongly agree	Agree	Disagree	Strongly disagree
1	2	3	4

1. On the whole, I am satisfied with myself. \_\_\_\_\_
2. At times, I think I am no good at all. \_\_\_\_\_
3. I feel that I have a number of good qualities. \_\_\_\_\_

Strongly agree	Agree	Disagree	Strongly disagree
1	2	3	4

4. I am able to do things as well as most other people. \_\_\_\_\_
5. I feel I do not have much to be proud of. \_\_\_\_\_
6. I certainly feel useless at times. \_\_\_\_\_
7. I feel that I'm a person of worth, at least on an equal plane with others. \_\_\_\_\_
8. I wish I could have more respect for myself. \_\_\_\_\_
9. All in all, I am inclined to feel that I am a failure. \_\_\_\_\_
10. I take a positive attitude toward myself. \_\_\_\_\_

### **YOUR GENERAL WELL-BEING**

**INSTRUCTIONS:** Below is a list of some of the ways you may have felt or behaved. Using the 1 - 4 scale below, please indicate how often you have felt this way during the past week by placing the appropriate number on the line next to each item.

Rarely or none of the time (Less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of the time (3-4 days)	Most or all of the time (5-7 days)
1	2	3	4

1. I was bothered by things that usually don't bother me. \_\_\_\_\_
2. I did not feel like eating; my appetite was poor. \_\_\_\_\_
3. I felt that I could not shake off the blues even with help from my family or friends. \_\_\_\_\_
4. I felt that I was just as good as other people. \_\_\_\_\_
5. I had trouble keeping my mind on what I was doing. \_\_\_\_\_
6. I felt depressed. \_\_\_\_\_
7. I felt that everything I did was an effort. \_\_\_\_\_
8. I felt hopeful about the future. \_\_\_\_\_

Rarely or none of the time (Less than 1 day)	Some or a Little of the Time (1-2 days)	Occasionally or a Moderate Amount of the Time (3-4 days)	Most or All of the Time (5-7 days)
1	2	3	4

9. I thought my life had been a failure. \_\_\_\_\_

10. I felt fearful. \_\_\_\_\_

11. My sleep was restless. \_\_\_\_\_

12. I was happy. \_\_\_\_\_

13. I talked less than usual. \_\_\_\_\_

14. I felt lonely. \_\_\_\_\_

15. People were unfriendly. \_\_\_\_\_

16. I enjoyed life. \_\_\_\_\_

17. I had crying spells. \_\_\_\_\_

18. I felt sad. \_\_\_\_\_

19. I felt that people disliked me. \_\_\_\_\_

20. I could not get "going." \_\_\_\_\_

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Anything else you'd like us to know about adjusting to Canada?

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**THANK YOU FOR YOUR PARTICIPATION!!**

If you have any questions, please feel free to contact Felicia Tan at  
[felicia.tan@brocku.ca](mailto:felicia.tan@brocku.ca).